

STATUS AND TRENDS OF TOXIC
WATER QUALITY PARAMETERS IN THE
POTOMAC RIVER BASIN

Prepared by

Elaine S. Friebele
H. Carlton Haywood
Timothy Manuelides
Hal Cardwell
Roland C. Steiner

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6110 Executive Boulevard, Suite 300
Rockville, Maryland 20852-3903

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STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

EXECUTIVE SUMMARY AND GUIDE TO USING THIS REPORT

This report presents an assessment of toxic parameters in water, sediment, and fish tissue of the Potomac River basin. It is the result of a recently completed feasibility study (ICPRB, 1987a). The purpose of this assessment is to identify recent concentrations and trends in concentration. This is the first analysis of toxic water quality parameters by the Interstate Commission on the Potomac River Basin (ICPRB); therefore, no comparisons can be made in a consistent manner with any past work. It is also the first such analysis performed on this river basin as a whole hydrological unit. The results presented in this report are expected to be useful to the signatories of the 1987 Chesapeake Bay Agreement in the fulfillment of their commitment to establish a Toxics Loading Inventory, and in other aspects of the Chesapeake Bay Basinwide Toxics Reduction Strategy which is now under development. The data used in this work were collected by several agencies and organizations in the basin, and the results of the analysis are presented as summary statistics in tabular form.

As in past ICPRB water quality reports on the analysis of conventional pollutants, the Potomac River basin is divided into six subdivisions so as to give a reasonable geographically consistent coverage for analysis: Potomac Highlands, Upper Great Valley, Shenandoah River, Potomac Piedmont, Potomac Urban Estuary, and Lower Potomac Estuary (see Map 1). The stations included in this report are those where data were recorded by a specified collecting agency for any of the defined parameters. They include stations sampled by regulatory agencies of each of the major jurisdictions in the Potomac River Basin: West Virginia, Virginia, Pennsylvania, Maryland, and the District of Columbia. In addition, data collected by the U.S. Geological Survey, Fairfax County (Virginia) Department of Public Works, and several major water supply utilities were assessed. ICPRB obtained these data from the U.S. Environmental Protection Agency data base system (STORET), or directly from the utilities and agencies.

For the purposes of this report, monitoring stations for toxic parameters in the Potomac River basin are organized hydrologically by sub-basin in downstream order (see Table A1). In addition, station and stream Indexes (pages D1-1 and D2-1) may be used to locate information concerning toxics in particular jurisdictions or tributaries.

The concentration of toxic parameters is reported for different aquatic media: fish (f), sediment (s), and water (w). All toxic parameter concentrations in water are expressed as ug/l; sediment and fish data are reported as mg/kg wet weight, except for some pesticides in sediment reported as ug/kg where dry weight (-dwt) is indicated.

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Toxic water quality information is presented in two tables for each monitoring station. Information in the first table is derived from the entire period during which the toxic parameter was monitored at the station. The table shows the medium sampled and the number of observations during that period and also, in parentheses (), the number of observations at the detection limit. Noting the percentage of observations at the detection limit is important to interpreting the data compiled in the tables. If the percentage of observations at the detection limit is high, the actual concentration could be significantly lower than the reported median. This is true because the median is calculated using the detection limit where indicated. The maximum concentration that occurred during the period of record and the date that it occurred are reported; often the maximum value was observed more than once, in which case the most recent date of that observation is reported.

The first table also reports results of the Kendall tau trend analysis (Hirsch et al., 1982). It is an analysis that tallies the number of times each parameter observation is greater than or less than later observations for a given month in succeeding years. The test uses only relative position in time and relative magnitude. With this technique, missing data, multiple observations per month, and seasonal effects may easily be accommodated in the analysis without skewing the trend. For this reason, the Kendall tau trend is superior to a linear regression. Linear regression is most useful when data are highly normal and non-seasonal, neither of which criteria are met by toxic water quality parameter data. The significance level of the Kendall tau test indicates whether a significant trend in a toxic parameter concentration at a site occurred. If the significance level is less than 0.05, we can be reasonably certain (>95% confident) that a trend has occurred. If the significance level is greater than 0.05, our certainty that a trend actually occurred is diminished (<95%). In cases where there is a significant trend, the slope of the Kendall tau analysis indicates the direction (+ or -) and magnitude of the trend. NA appears on the table when there is an insufficient number of observations to perform the trend analysis.

The second table is concerned with the status of the river or tributary at the monitoring site, based upon the most recent 12 months of record. The mean and median concentrations are based upon fewer but more recent observations than the trend analysis. Checking the number of observations in the trend table informs the reader on the percentage of observations at the detection limit.

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The status table reports health risks calculated at the median concentration for toxic parameters during the most recent 12 month period of record. The health risk calculations are performed at a screening level; i.e., their purpose is to screen chemical concentration data for observations that are associated with substantial risk. If concentrations associated with high risk are found, these calculations should be considered as a starting point for a more detailed and site-specific risk assessment, performed according to EPA guidelines.

THE HEALTH RISK VALUES IN THIS REPORT MUST BE USED WITH CAUTION AND FULL RECOGNITION OF THE FOLLOWING ASSUMPTIONS UNDERLYING THE CALCULATIONS.

Human health risks for toxic parameters in water were computed assuming that a person is drinking two liters of untreated river water per day throughout the year. Human health risk associated with toxic compounds in fish is based upon the daily consumption of 6.5 g of fish caught from the river. While these are not average circumstances for drinking water and fish consumption, they are the standard factors employed by EPA in performing conservative assessments of risk.

Health risks for carcinogens are expressed as the expected excess number of cancer cases per million people exposed. Attention is called to parameters in the text where an excess of 10 or more cancer cases might be expected. The health risk for toxicants is expressed in terms of a Hazard Index, which is simply the ratio of the observed concentration to the acceptable intake concentration established from toxicology tests. Attention is called to parameters in the text where a ratio greater than or equal to 0.5 is determined. If the Hazard Index is greater than one, the observed concentration is higher than the threshold concentration above which health effects occur.

The number of stations at which metals were measured within the last five years is a fraction of the total number of stations with toxic chemical data (see Tables I.1 and I.2). Toxic parameters were monitored at more stations in the Urban Estuary than in any other sub-basins. In contrast, the number of stations with recent metals monitoring data in some subdivisions is very small (6 or fewer). Since metals are measured more frequently than organic parameters, the summary data suggests that there are geographic areas of the river basin that have inadequate recent monitoring data for the determination of current status and trends, or detection of problems concerned with toxic parameters in the river.

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The summary data highlight differences in median parameter concentrations in the various subdivisions. For example, Arsenic levels in the Potomac Highlands waters are elevated in relation to median levels in other portions of the Potomac River Basin. Copper concentrations in the water seem to increase somewhat from the Highlands to the Lower Estuary. Lead levels in the water column in the Highlands, the Upper Great Valley, and the Urban Estuary are at least an order of magnitude higher than those in the other sub-basins. Although median Zinc concentrations in the water appear to be fairly consistent from the headwaters to the mouth, the range of concentrations occurring in some subdivisions is quite large.

Fewer measurements of metals in sediments than in water have been made in the past 5 years, and there is a conspicuous absence of recent sediment data in the Potomac Highlands and the Upper Great Valley. Since toxic pollutants can desorb from sediments, current sediment monitoring is important in determining present and future toxic water quality status. The summary data for toxics in sediments show that both the median and the range of Lead concentrations are higher in Urban Estuary sediments than in other sub-basins. Zinc levels in sediments are generally highest in the Urban Estuary, but maximum concentrations of Zinc in sediments are greatest in the Shenandoah and Piedmont subdivisions.

There follows a summary of results for each subdivision.

POTOMAC HIGHLANDS

Toxic parameters have been monitored at 63 stations in the Potomac Highlands; however, at many stations, the sampling period was terminated in the 1970's or early 1980's. In addition, in many cases, short-term studies provided insufficient data for a complete analysis of toxics status and trend.

Trend

The only consistent significant trends occurring throughout this subdivision are decreasing trends in Copper and Chromium concentrations. Interestingly, Hexavalent Chromium levels have not changed significantly, although very small positive trends were noted at some stations. Scattered downward trends for metals, including Zinc, Mercury, Lead, Nickel, and Silver have occurred. A positive trend in Lead levels was found at one station on the South Branch.

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Human Health; Toxic Status/Standards Exceedance

Antimony and Lead are the toxic parameters consistently posing human health hazard in drinking water in the Potomac Highlands, and Lead levels throughout the sub-basin may be in violation of West Virginia water quality standards. Other parameters found at levels exceeding standards include Cadmium, Zinc, Mercury, Silver, and Chromium.

UPPER GREAT VALLEY

Toxic parameters were monitored at 81 stations in the Upper Great Valley. In many cases only a few parameters were analyzed, and at only a few stations were fish tissue or sediment data collected.

Trend

Regional patterns in toxic water quality trends are somewhat mixed. Significant declining trends were determined for Cadmium and Lead in Conococheague Creek; and for Chromium, Copper, and Lead in Opequon Creek and its tributaries. Increasing trends were determined for Cadmium in Opequon Creek, and for Chromium and Lead in the main stem Potomac at Shepherdstown. The increasing trends in the Potomac main stem are contrary to those of its upstream tributary, Opequon Creek. No significant parameter trends were determined for Antietam Creek.

Human Health

Toxic parameters with potentially hazardous levels for human health included particularly high values of Arsenic in Opequon and Tuscarora creeks and of Antimony in Tuscarora Creek. Cadmium, Chlordane, Aldrin, Dieldrin, and PCB's were found at potentially hazardous levels scattered throughout the Opequon and its tributaries. Chromium and Lead were hazardous at one and two stations, respectively, in the Opequon. Fish tissue was found to be contaminated with Arsenic in the Conococheague; and Arsenic, Lead, Chlordane, Dieldrin, and PCB's were found in Antietam Creek at potentially hazardous levels.

Toxic Status/Standards Exceedance

Concentrations of Cadmium, Lead, Methyl Mercury, and Phenols in Opequon Creek and its tributaries appeared to be near or in violation of state water quality standards and criteria in West Virginia.

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SHENANDOAH RIVER BASIN

Trend

Water quality data from the 97 sampling stations in the Shenandoah River basin was generally not very current. However, regional patterns in toxic water quality trends usually indicated decreases in concentration. Where the parameter values are indicated as being at or below the limits of detection, this most likely indicates refinements in detectability. Significant negative trends were most common for Arsenic, Copper, and Lead.

Human Health

Potential human health hazards for Cadmium were almost everywhere significant, as were potential cancer risks for Arsenic. However, concentration values for these parameters were almost always flagged as being at or below the detection limits. Several notable exceptions were: Arsenic in fish tissue from Cedar Creek and the North Fork, and in water from the North River; and Antimony in water from the Shenandoah in West Virginia.

Toxic Status/Standards Exceedance

The comparison of recent data with state water quality standards indicated that parameter concentrations were generally within standards' with a few exceptions near the mouth of the Shenandoah River.

POTOMAC PIEDMONT

Trend

Water quality Data were available from 97 stations in the Potomac Piedmont. Regional patterns in toxic water quality parameter trends in the Potomac main stem were decreasing for Barium, Chromium, and Lead. The trend for Copper was increasing at Whites Ferry but decreasing downstream at the water utility intakes. Rock Creek, a tributary to the Monocacy River in Pennsylvania, indicated significant negative trends in Cadmium and Lead. The remainder of the Monocacy River stations revealed mixed trends: increasing for Lead and Chromium, and both increasing and decreasing for Copper. The only other significant trend determined in the data for the Potomac Piedmont Subdivision was a decline in Arsenic in Tuscarora Creek (Loudon County, Virginia).

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Human Health

Concentrations of Arsenic and Cadmium throughout the subdivision which were at or below the detection limit indicated a health risk. Analysis of fish tissue revealed potential human risk of cancer from Arsenic, PCB's, and Dieldrin in the Potomac, the Monocacy, and Goose Creek. Chlordane was found at potentially human cancer risk levels in fish taken from Potomac and Goose Creek sampling stations. In addition, Aldrin, Alpha BHC, Heptachlor, Heptachlor Epoxide, and Toxaphene were found at potentially human cancer risk levels in fish from Goose Creek.

Toxic Status/Standards Exceedance

Apparent violations of the state water quality standard for Aldrin were scattered throughout the Virginia tributaries.

POTOMAC URBAN ESTUARY

Trends

Within the Potomac Urban Estuary, the most distinctive finding is a downward trend in Copper (approximately 8-10 ug/l per year) at several stations in the Potomac main stem and the Anacostia River. A smaller but significant decreasing trend in Arsenic occurs in Virginia tributaries, including Pimmit Run, Four Mile Run, Hunting Creek, and Little Hunting Creek. Mercury concentrations in water are also decreasing in Virginia streams, including Pimmit Run, Accotink Creek, and Pohick Creek. In the upper tributaries of the Northwest Branch of the Anacostia, Cadmium, Lead, Nickel, and Mercury showed significant increasing trends in the late 1970's.

Human Health

Although the data suggest that several chemicals, including Arsenic, Cadmium, Copper, and Lead are approaching hazardous levels for drinking water, the fact that either all values are at detection limit, or that the reporting period is not current prevents the formation of a reliable conclusion concerning the human health status of the Potomac Urban Estuary waters in relation to these parameters. Recent extensive analysis of toxic parameters in water, fish, and sediment in Little Hunting Creek showed that cancer risks of 10 to 279 in 1 million exist for consumption of fish containing Aldrin, Alpha BHC, Dieldrin, and Arsenic.

Toxics Status/Standards Exceedance

Relatively high levels of metals including Cadmium, Copper, Lead, and Zinc were reported in recent years at many urban

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estuary stations; however, except for Zinc, the reported values are at detection limits, and therefore, actual metals levels could be lower than those reported. It is impossible to determine whether actual concentrations of these metals in the water exceed water quality standards.

High Lead (63-166 mg/kg) and Zinc (112-373 mg/kg) concentrations were detected in the sediments of Four Mile Run, Cameron Run, and Hunting Creek, but sediments of other Virginia streams entering the Potomac to the south contained significantly lower concentrations of these parameters. Median Zinc concentrations in the water column generally varied between 12 and 50 ug/l, but at some stations, particularly in the Anacostia River, median concentrations were 100 ug/l or greater. These Zinc levels exceeded the District of Columbia aquatic life criteria of 50 ug/l. It is interesting that the majority of maximum Zinc concentrations (116 to 737 ug/l) occurred from January through April of 1984 in the Potomac urban estuary. In Virginia streams, one reported Aldrin concentration of 0.1 ug/l exceeded the state criteria of 0.03 ug/l.

LOWER POTOMAC ESTUARY

Trend

Relatively few trends were determined from the data from the 123 stations of the Lower Potomac Estuary subdivision. Lead showed a decreasing trend in Aquia Creek, and Nickel showed significant increasing trends in Williams Creek and Upper Machodoc Creek. No significant trends were determined for the data from the Occoquan River, Mattawoman Creek, Quantico Creek, and the smaller Maryland tributaries. Among the smaller Virginia tributaries, Lead was determined to have a significant decreasing trend in Aquia Creek; while Nickel was determined to have a large increasing trend in Williams Creek and Upper Machodoc Creek.

Human Health

For those stations on the Potomac main stem where Arsenic and Cadmium were sampled, their concentrations (often reported as being at or below the limit of detection) indicated potential human health risk. Human health risk indicators for water are less meaningful in the main stem of the lower estuary because of its unlikely use as a drinking water source. PCB's were found in fish tissue at levels of potential cancer risk at all stations from near Quantico, Virginia, to the mouth of the river. Chlordane and Dieldrin were also found in fish tissue at levels indicating potential risk to humans from cancer at most of the lower Potomac stations. In the Occoquan catchment, human health hazard was indicated from Lead in Cedar Run and from

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Cadmium in the Occoquan. Human risk of cancer was indicated in the Occoquan from Arsenic. A potential Health hazard was indicated from Lead at 3 stations in the Quantico Creek catchment. Among the smaller Virginia tributaries, Arsenic data indicated potential cancer risk in Gambo Creek and Upper Machodoc Creek. Concentrations of Cadmium above the limit of detection indicated potential human health risk in Accokeek Creek, Williams Creek, and Upper Machodoc Creek. Fish tissue data indicated human cancer risk in Lower Machodoc Creek.

Toxic Status/Standards Exceedance

Apparent violations of Virginia state water quality standards were indicated for Aldrin in the Occoquan River and in Belmont Bay. Virginia water quality standards were also violated by Zinc and Lead concentrations at 1 and 2 stations respectively in the Quantico Creek catchment, and by Cadmium in Williams Creek and Upper Machodoc Creek.

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PREFACE

Since its creation in 1940, the mission of the Interstate Commission on the Potomac River Basin (ICPRB) has been to promote the protection and enhancement of the environment of the nearly 15,000 square-mile drainage basin of the Potomac River. To achieve its mission, ICPRB has among its functions the collection, interpretation, and dissemination of data relative to all facets of the area's water and associated land resource problems.

In 1974, the Interstate Commission, with the cooperation of state and federal water quality scientists and administrators, conceived the Baseline Water Quality Monitoring Network (BWQMN) consisting of approximately 70 stations. The BWQMN stations are sampled by city, county, and state water quality regulatory agencies, and are chosen to provide strategic baseline data for biennial water quality appraisals and long-term trend analyses. These biennial and long-term trend analyses are performed on conventional water quality parameters, and have been reported periodically by ICPRB (1975, 1976a, 1977b, 1979, 1980, 1982, 1985, 1987b).

Beginning in 1972, the Federal Water Pollution Control Act Amendments (PL-92-500) required more coordinated water quality monitoring, more accurate data, and some analysis. Subsequent amendments have broadened the scope of water quality parameter identification, analysis, and interpretation. Section 304(l) of the current Act requires States to list those waters which are impacted by toxic pollutants. Also of particular importance to the Potomac River basin are the Chesapeake Bay Agreements of 1983 and 1987. The latter agreement between Virginia, Maryland, Pennsylvania, Environmental Protection Agency, District of Columbia, and Chesapeake Bay Commission pledges the signatory jurisdictions to develop and implement a toxics reduction strategy by December 1988. Major elements of the strategy include basinwide approach to toxics reduction and measurement of progress. The approaches to reduction consist of a number of items to be addressed consistently among the implementing jurisdictions; these items cover the general areas of point and nonpoint sources and contaminated sediments. The measurement of progress will involve the establishment of baseline data followed by comparison with future conditions. Baseline conditions would be developed in a proposed Toxic Loading Inventory (TLI), and would include number and volume of point source discharges and an accounting system to monitor progress.

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In general the Potomac River basin is not an industrialized area. Few heavy manufacturing or materials processing plants exist or discharge to the river and its tributaries. Much of the toxic water quality parameter data exhibit concentrations at or near the detection limit, confirming that water quality is not widely impacted by toxics.

The stations for which data were analyzed in this task were all those with data for any of the defined toxic parameters. They were selected on the basis of data availability and without regard to basin coverage. In this regard, the purpose of this report is more to assess the available data and their distribution than to provide strategic coverage of parameters or sub-basin drainage areas.

Previous ICPRB water quality studies evaluated data to determine the status of conventional water quality parameters for the major Potomac River tributaries, the Potomac River main stem, and the Potomac River basin as a whole. This report, Status and Trends of Toxic Water Quality Parameters in the Potomac River Basin, is the result of a recently completed feasibility study (ICPRB, 1987a). It presents the status and trends of toxic parameters in surface water, sediment, and fish tissue in the entire Potomac River basin.

The analysis and interpretation of toxic water quality parameter data presented in this report will be of assistance to the jurisdictions of the basin in carrying out their water quality improvement programs, in complying with federal water quality requirements, and in implementing control strategies developed to improve the quality of Chesapeake Bay.

L. E. ZENI
Executive Director

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MARYLAND, Department of the Environment.

PENNSYLVANIA, Department of Environmental Resources

VIRGINIA, State Water Control Board; Richmond, Northern, and Valley Regional Offices

WEST VIRGINIA, Department of Natural Resources, Division of Water Resources

U.S. ARMY CORPS OF ENGINEERS, Washington Aqueduct Division

FAIRFAX COUNTY (VA) WATER AUTHORITY

FAIRFAX COUNTY (VA), Department of Public Works

WASHINGTON SUBURBAN SANITARY COMMISSION

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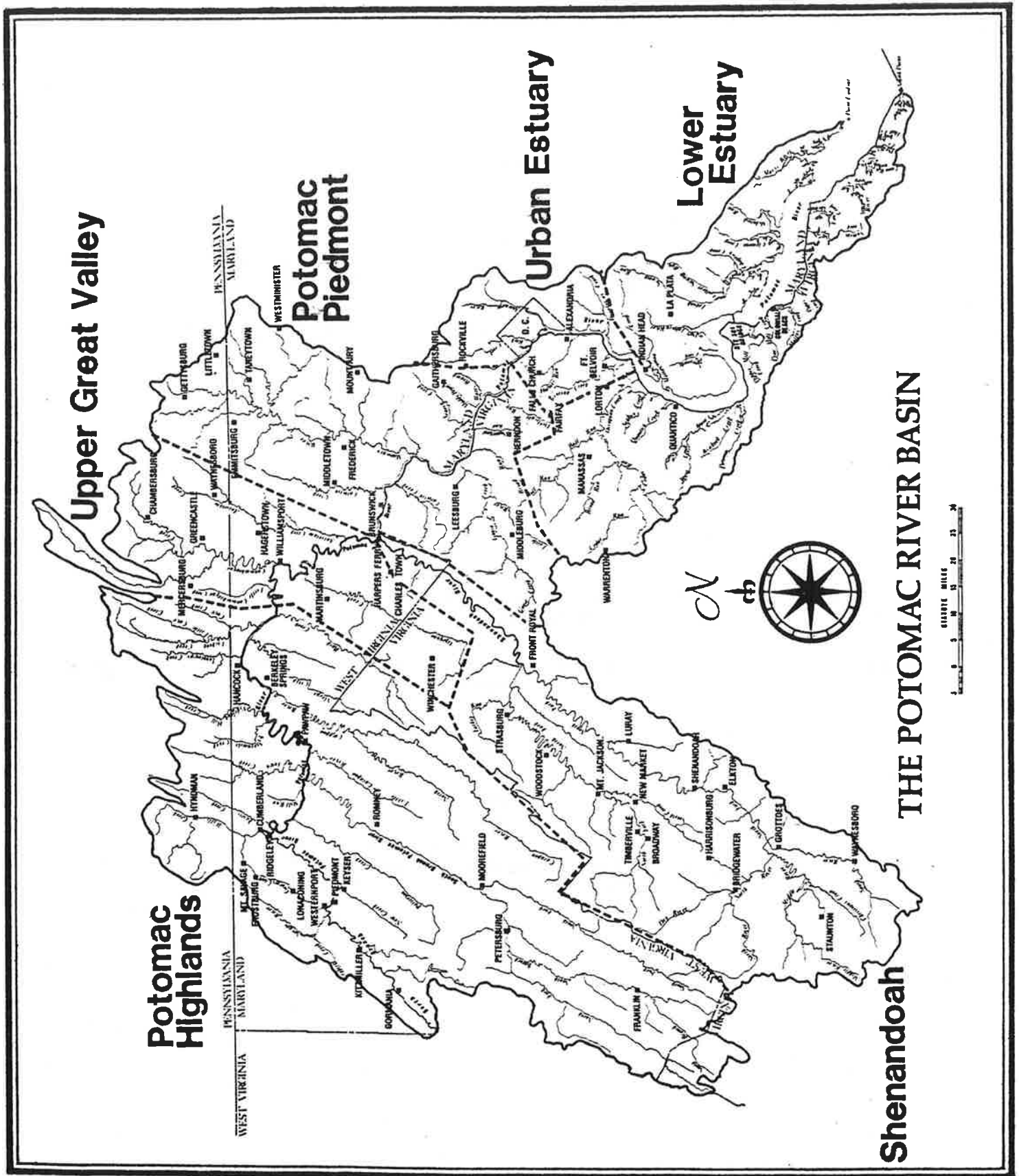
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I. DATA COLLECTION AND ANALYSIS

Introduction

This report is intended to provide a basin-wide assessment of the status and trends in toxic water quality parameters for the Potomac River. The status and trend analysis was conducted on all the available toxic parameter data from Potomac basin state regulatory agencies and the major water supply utilities in the metropolitan Washington, D.C. area. This assessment is made in two ways: a) by calculation of the Kendall tau statistic for detection of trends in water quality parameter concentration; and b) by determination of parameter status using the most recent 12 months of observations. The analysis was conducted with data (where available) for 35 parameters in water, fish tissue, and sediment at approximately 580 stations located throughout the basin.

Basin Description

The Potomac River basin is located in the middle Atlantic coastal zone of the United States. The Potomac River is the second largest tributary to the Chesapeake Bay. It begins as a small spring at Fairfax Stone, West Virginia, and for the first 100 miles of its length it is called the North Branch Potomac River. When it is joined by the South Branch Potomac River near Green Spring, West Virginia, it forms the Potomac River proper and flows another 283 miles until it meets the Chesapeake Bay at Point Lookout, Maryland and Smith Point, Virginia. The Potomac River Basin drains 14,670 sq mi (37981 sq km) of which 5,723 sq mi (14817 sq km) are in Virginia, 3,818 sq mi (9885 sq km) in Maryland, 3,490 sq mi (9036 sq km) in West Virginia, 1,570 sq mi (4064 sq km) in Pennsylvania, and 69 sq mi (179 sq km) in the District of Columbia.

In this report, the basin is divided into six subdivisions, which approximately correspond to physiographic provinces. These subdivisions, and major towns and tributary streams of the basin, are shown on Map 1.

Toxic Parameter Data in the Potomac River Basin

Data Sources

Trend and status assessments were made using data collected by State agencies responsible for water quality monitoring:

District of Columbia, Department of Consumer and Regulatory Affairs, Environmental Control Division;

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Maryland, Department of the Environment (Formerly Department of Health and Mental Hygiene, Office of Environmental Programs, and prior to 1981, the Water Resources Administration);

Pennsylvania, Department of Environmental Resources;

Virginia, State Water Control Board, Division of Surveillance and Field Studies, Northern and Valley Regional Offices;

West Virginia, Department of Natural Resources, Division of Water Resources.

In addition to the use of those data collected by state regulatory agencies, information was obtained from:

U.S. Geological Survey,

Washington Aqueduct Division of the U.S. Army Corps of Engineers,

Fairfax County (VA) Water Authority,

Fairfax County (VA) Department of Public Works,

Washington Suburban Sanitary Commission.

Toxic Parameter Selection

Criteria for selecting parameters to be examined in this report were needed because of the large number of natural and synthetic toxic chemicals being produced, used, and discarded. A logical criterion was the 126 priority pollutant list established by the Clean Water Act. Beyond this list, a group of chemicals regulated by the Safe Drinking Water Act that includes 83 inorganic and organic parameters for which Recommended Maximum Contaminant Levels must be developed by 1989, was used. All available data for these toxic parameters (which are listed in Table A2) were retrieved from EPA's STORET water quality database, metropolitan Washington, D.C. area water utilities, and the Fairfax County (Virginia) Department of Public Works. For brevity, raw data are not published here, but can be obtained from ICPRB, from STORET, or from the state agencies and utilities. More detailed information on field and laboratory methods for these parameters is also available from the agencies and organizations responsible for data collection. Table A1 lists the location of monitoring stations, their location, and page number of status and trend analysis.

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Description of Data

The available data on toxic chemicals in the Potomac River basin, obtained in various formats and units, were converted to standard units and placed in computer files with standard formats.

Utilities noted non-detection of the toxic parameters at the analytical detection limit by various means: ND (not detected), zero, and detection limit values preceded by a "<" symbol. These notations were replaced by the detection limit provided by the data producer.

In the STORET data files, three types of "Remark Codes" appeared next to reported values: K, (off-scale low) indicating that the parameter concentration was actually less than the value shown; L, (off-scale high) indicating that the concentration was greater than the value shown; and U, indicating the analytical detection limit.

In order to avoid obtaining an artificial trend from improving (decreasing) detection limits over time, values less than the highest reported detection limit for a parameter were replaced by that detection limit value in all data sets other than those from STORET. This technique could not be employed for STORET data files because multiple detection limits representing a broad range of values (often several orders of magnitude) were commonly encountered. In some cases, values flagged at the detection limit were higher than those flagged as off-scale high values. Data sources attributed these multiple reported detection limits to variable calibration and performance of the analytical instruments. Thus, for STORET data files, all Remark Codes were replaced by a single flag, and all values were used in the status and trend analysis. Detection limits for utilities and STORET data are listed in Tables A3 and A4, respectively.

Uncertainty in the Data

Uncertainty is an intrinsic part of measuring chemical concentrations in water, sediments, and fish tissue. This uncertainty results from natural variability at each sampling site, various survey methodologies, sampling protocols, and analytical error.

Natural variability includes temporal and spatial differences in water quality. Temporal differences result from seasonal and loading fluctuations and historical trends. Spatial differences

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in chemical concentrations exist because of heterogeneities in the aquatic media (differences in flow and loading patterns or heterogeneity of bed sediments). For example, Wright et al (1986a) found that within-site variability of sediment polycyclic aromatic hydrocarbon concentrations at 6 sites on the western shore of the Chesapeake Bay (including the mouth of the Potomac River) was greater than could be attributed to analytical error.

Within the ideal sampling design, a minimum acceptable number of samples is analyzed at each site for accurate estimation of parameter levels. For example, Wright et al (1986b) determined that the minimum sample size required to accurately determine the mean metals concentrations in Macoma baltica at Choptank River sites is 12 individual animals. However, the range of natural variability of chemical constituents in water, sediments, and biota at each Potomac River site is not known. Therefore, natural heterogeneity is a source of uncertainty in the available data that cannot be evaluated. Although status is determined on the basis of observations within the last 12 months of record, it is not based upon a minimum number of observations. In order to assess trends using the Kendall test, a minimum of 3 observations within one season (one of 12 months for this analysis) is required. However, if a trend is detected, significance and thus confidence levels for the Kendall tau statistic increase with increasing number of observations. A significant trend (at a 5% significance level) can be determined using four observations within a season, while a highly significant trend (at a 0.5% significance level) is determined with a minimum of 6 observations.

Monitoring observations are distributed in time and space to meet the goals of different monitoring programs. While the number of observations, number of stations, location of stations, and period of record vary among the toxic parameters. In most subdivisions of the basin, less than half of the available data was collected within the last five years. Spatial distribution of data for the 35 parameters varies from one or two stations per parameter to fairly wide coverage of metals analyses throughout the basin. Thus, existing data may not be sufficiently extensive or well distributed in the Potomac basin to detect all existing toxic problems and trends.

In addition to natural variability and sample design, other sources of uncertainty lie within sample analysis. Analytical error depends upon sample handling and the sensitivity, accuracy, and precision of the analytical method. Differences in analytical methods and detection limits among various data producers are identified in this report.

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Analytical Methods

Seasonal Kendall Test for Trend

Many factors complicate the analysis of water quality time series data. These factors include the non-normal distribution of data, seasonality, missing records within the data set and data values reported as below the limit of detection. While linear regression is a powerful and common statistical tool for detecting trend, the problems with water quality data render the technique less effective. To overcome these difficulties, a nonparametric test statistic known as the Seasonal Kendall tau was developed (Hirsch et al. 1982). It is employed in this report in place of more common tests based on linear regression and other parametric techniques.

The Kendall tau is a statistic that can be readily used to test for trends in water quality time series. The Kendall tau statistic for each season (for this analysis, each of the calendar months is a season) is calculated as the sum of integer scores (-1,0,1) representing the relative magnitude of each observation compared to all later observations of the same season. If multiple observations within a season exist, the median is used. Values below the limit of detection (LD data), seasonality, and missing data can be handled without difficulty. Since only the relative magnitude of observations is used to calculate the value of the Kendall tau statistic, LD observations are handled easily: all LD's are equal to each other and are less than all measured observations. When gaps in the record exist, parametric techniques can implicitly over weight outliers or isolated observations. The nonparametric test does not assume any underlying distribution in the data, so observations that deviate significantly from the normal distribution pose no problem. The Kendall tau statistic uses only relative position in time and relative magnitude, estimating the variance using the number of observations and ties alone. For this reason the nonparametric test is insensitive to gaps in the record (a common feature in real water quality time series).

Monte Carlo simulations comparing the seasonal Kendall test to linear regression (Hirsch et al. 1982) show that the seasonal Kendall test is robust against seasonal behavior, departures from normality, and censoring of the data (LD). Although a linear regression-based test is more powerful than the seasonal Kendall tau if the data are normally distributed and nonseasonal this is seldom the case with water quality data. The seasonal Kendall test also more accurately reflects the significance of the trend results if a situation of missing or unevenly spaced

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data exists (Hirsch and Slack 1984). This is a result of using a nonparametric test, which does not have the underlying assumption of evenly spaced data inherent in linear regression.

In order to assess the trend for the entire period of record (all seasons collectively) the Kendall tau statistics for each season are combined into a seasonal Kendall tau. Under the null hypothesis of no trend, the Kendall tau statistic for each month can be viewed as a zero mean normal random variable (regardless of the distribution of the raw data). The sum of the Kendall tau statistics for each month will also be a zero mean normal random variable. The variance of this normal variable, under the assumption of independence, will equal the sum of the individual monthly variances.

The seasonal Kendall tau is calculated as the sum of the monthly Kendall tau statistics divided by the square root of its variance estimator (the sum of the variance estimators for each month). Since the Kendall tau statistic approaches the standard normal distribution for sample sizes that were examined in this report, the value of the statistic can be compared to standard normal probability levels to evaluate the significance of the trend. All test statistics with absolute values greater than 1.645 have trends that are significant to at least the 0.05 level. This indicates a probability greater than 95% that a trend exists. Similarly test statistics with absolute values greater than 2.65 are significant to at least the 0.005 level, denoting 99.5% or greater probability of trend. Absolute values of the test statistic greater than 1.645 (probability greater than 95% that a trend exists) are used in this study to indicate significant trend.

As a summary statistic to describe the rate of change of a the value of a parameter in a segment over time, a Seasonal Kendall Slope was estimated (Hirsch et al. 1982). The estimated slope is simply the median of the slopes (gradients) between observations. By using the median instead of the mean we once again buffer the results from the effects of outliers and extreme points.

Status

The current status of Potomac basin waters with regard to toxic constituents is based upon the most recent 12 months of data collected at each monitoring station. The status summary includes the median concentration, mean concentration, and standard deviation. The maximum concentration during the period of record and the date of occurrence are noted as an indicator of worst case status.

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Health Risk

A screening level assessment of health risks resulting from drinking river water or eating fish caught from the river was performed using the median toxic chemical concentration in water or fish tissue during the most recent twelve month period in which each river station was monitored. The Public Health Risk Evaluation Database served as the source of toxicity information for calculating health risk. A dBASE program called EZTOX retrieves the toxicity information, generates health risk equations, and produces a table of reference concentrations (based upon assumed intake quantities) of toxic parameters in water and fish tissue. The program retrieves toxicity information from its own copy of the Public Health Risk Evaluation Database (PHRED). A list of reference concentrations, at which little or no estimated health risk from drinking water or fish consumption, is presented in Table A5.

Calculation of Carcinogenic Risk

EZTOX calculates the number of (excess) cancer cases that occur in an exposed population at a specific carcinogen dose. Since most risk group doses fall well below the lowest experimental dose used in toxicity studies, the excess risk that occurs between the lowest experimental dose and zero (the origin) is calculated by linear interpolation. Carcinogens are assumed to have dose-response at any concentration greater than zero. Acceptable concentrations can be calculated for a general population based on an "acceptable" number of cancer cases resulting from exposure at a certain dose level. Although no national consensus on the acceptable number of excess cases exists, an acceptable lifetime individual excess risk of 10^{-6} (one case per million exposed) is used by FDA and USEPA for general population exposure.

The dose is calculated as follows:

$$\text{Dose} = C * I * T$$

where C = concentration

I = intake

T = exposure time

Standard factors used in calculating the dose include a 2 l/day drinking water intake, a 6.5 g/day fish consumption rate, and an average body weight of 70 kg.

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The individual excess risk, P, is a function of dose and R, the excess risk per unit dose.

$$P = R * C * I * T$$

The risk factor (R) which is unique to each carcinogen, is an expression of the relationship between the control-adjusted group response to the human dose derived from an animal or human study.

Hazard Index

The safety factor method establishes acceptable intake concentrations for systemic toxicants. This class of toxic chemicals includes developmental toxicants, which produce pre- or postnatal toxic effects, and organ/tissue toxicants. In contrast to carcinogens, developmental or organ/tissue toxicants have non-zero thresholds at which toxic effects are observed; i.e., below the threshold dose, no effect is observed. From D_j , the dose at which no effect is observed, the acceptable concentration is calculated:

$$C_j = D_j / I * T$$

Uncertainty in estimating the risk of toxic chemicals arises from interspecies variation in toxicant sensitivity, potential synergistic effects of multiple toxicants, and the quality of the toxicity data used. A safety factor, with an upper limit of 10, is assigned to each source of uncertainty, and the acceptable intake concentration is adjusted using the product of the assigned safety factors. A safety factor of 1 is assumed in the risk calculations originating from the EZTOX program.

The hazard index is a means of comparing the actual dose of a toxicant to the lowest dose at which adverse effects are observed. The Hazard Index (HI) is calculated as follows:

$$HI = \text{Actual Dose} / D_j$$

Therefore, the hazard index indicates the probability of toxic effects resulting from toxicant intake at actual concentrations. Values of one or greater indicate a that the ambient concentration is higher than the threshold concentration for toxic effects, while the magnitude of values less than one indicates how close toxicant concentrations in water or fish are to the threshold levels.

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Presentation Of Results

For the purposes of this report, monitoring stations for toxic parameters in the Potomac River basin are organized hydrologically by sub-basin in down stream order. In addition, station and stream Indexes (pages D1-1 and D2-1) may be used to locate information concerning toxics in particular jurisdictions or tributaries.

Toxic water quality information is presented in two tables for each monitoring station. Information in the first table is derived from the entire period during which the toxic parameter was monitored at the station. The concentration of toxic parameters is reported for different aquatic media: fish (f), sediment (s), and water (w). All toxic parameter concentrations in water are expressed as ug/l; sediment and fish data are reported as mg/kg wet weight; except the following pesticides which are reported in sediments as ug/kg on a dry weight basis: Aldrin, Chlordane, Dieldrin, Endrin, and Heptachlor. The table shows the number of observations during that period and in parentheses, the number of observations at the detection limit. Noting the percentage of observations at the detection limit is important to interpreting the data compiled in the tables. If the percentage of observations at the detection limit is high, the actual concentration could be significantly lower than the reported median. This is true because the median is calculated using the detection limit where indicated. The maximum concentration that occurred during the period of record and the date that it occurred are reported; often the maximum value was observed more than once, in which case, the most recent date of that observation is reported.

The first table also reports results of the Kendall tau trend analysis. (See Analytical Techniques previously discussed for a description of Kendall tau analysis.) The significance level of the Kendall tau test indicates whether a significant trend in a toxic parameter concentration at a site occurred. If the significance level is less than 0.05, we can be reasonably certain (>95% confident) that a trend has occurred. If the significance level is greater than 0.05, our certainty that a trend actually occurred is diminished (<95%). In cases where there is a significant trend, the slope of the Kendall tau analysis indicates the direction (+ or -) and magnitude of the trend. NA appears on the table when there is an insufficient number of observations to perform the trend analysis. Slopes and significance values reported as 0.00 are less than 0.005.

The second table is concerned with the status of the river or tributary at the monitoring site, based upon the most recent 12

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months of record. The mean and median concentrations are based upon fewer, but more recent observations than the trend analysis. Checking the number of observations in the trend table informs the reader on the percentage of observations at the detection limit.

The status table reports health risks calculated at the median concentration for toxic parameters during the most recent 12 month period of record. The health risk calculations are performed at a screening level; i.e., their purpose is to screen chemical concentration data for observations that are associated with substantial risk. If concentrations associated with high risk are found, these calculations should be considered as a starting point for a more detailed and site-specific risk assessment, performed according to EPA guidelines.

THE HEALTH RISK VALUES IN THIS REPORT MUST BE USED WITH CAUTION AND FULL RECOGNITION OF THE FOLLOWING ASSUMPTIONS UNDERLYING THE CALCULATIONS.

Human health risks for toxic parameters in water were computed assuming that a person is drinking two liters of untreated river water per day throughout the year. Human health risk associated with toxic compounds in fish is based upon the daily consumption of 6.5 g of fish caught from the river. While these are not average circumstances for drinking water and fish consumption, they are the standard factors employed by EPA in performing conservative assessments of risk.

Health risks for carcinogens are expressed as the expected excess number of cancer cases per million people exposed. Attention is called to parameters in the text where an excess of 10 or more cancer cases might be expected. The health risk for toxicants is expressed in terms of a Hazard Index, which is simply the ratio of the observed concentration to the acceptable intake concentration established from toxicology tests. Attention is called to parameters in the text where a ratio greater than or equal to 0.5 is determined. If the Hazard Index is greater than one, the observed concentration is higher than the threshold concentration above which health effects occur.

The status of toxic parameters at each station was compared with appropriate state water quality criteria and standards. These criteria and standards are discussed in Appendix A6.

Tables I.1 and I.2 present summaries of metals concentrations in water and sediment, respectively, which were measured within the 1983-1988 period in each of the 6 Potomac subdivisions. The summary data is based upon median concentrations in water and

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sediments within the last 12 month reporting period at each station. The number of stations at which metals were measured within the last five years is a fraction of the total number of stations with toxic chemical data. Toxic parameters were monitored at more stations in the Urban Estuary than in any other sub-basins. In contrast, the number of stations with recent metals monitoring data in some subdivisions is very small (6 or fewer). Since metals are measured more frequently than organic parameters, the summary data suggests that there are geographical areas of the river basin that have inadequate recent monitoring data for the determination of current status and trends, or detection of problems concerned with toxic parameters in the river.

The summary data highlights differences in median parameter concentrations in the various subdivisions. For example, Arsenic levels in the Potomac Highlands waters are elevated in relation to median levels in other portions of the Potomac River Basin. Copper concentrations in the water seem to increase somewhat from the Highlands to the Lower Estuary. Lead levels in the water column in the Highlands, the Upper Great Valley, and the Urban Estuary are at least an order of magnitude higher than those in the other sub-basins. Although median Zinc concentrations in the water appear to be fairly consistent from the headwaters to the mouth, the range of concentrations occurring in some subdivisions is quite large.

Fewer measurements of metals in sediments than in water have been made in the past 5 years, and there is a conspicuous absence of recent sediment data in the Potomac Highlands and the Upper Great Valley. Since toxic pollutants can desorb from sediments, current sediment monitoring is important in determining present and future toxic water quality status. The summary data for toxics in sediments show that both the median and the range of Lead concentrations are higher in Urban Estuary sediments than in other sub-basins. Zinc levels in sediments are generally highest in the Urban Estuary, but maximum concentrations of Zinc in sediments are greatest in the Shenandoah and Piedmont subdivisions.

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Table I.1 Summary of Median Metals Concentrations (ug/l) in Potomac River Waters (1983-1988).

Sub-basin	Parameter	No. Sta	Min	Max	Median
Highlands	Antimony	8	40	80	45
Upper Valley	Antimony	2	150	180	165
Shenandoah	Antimony	2	90	150	120
Highlands	Arsenic	9	0.45	30	30
Upper Valley	Arsenic	13	0.01	30	0.1
Shenandoah	Arsenic	5	1.0	30	1.0
Piedmont	Arsenic	10	1.0	2.0	2.0
Urban	Arsenic	40	1.0	5.0	5.0
Lower Estuary	Arsenic	10	1.0	3.0	1.0
Piedmont	Beryllium	10	1.0	2.2	2.1
Urban	Beryllium	8	1.0	2.2	2.1
Lower Estuary	Beryllium	6	2.0	2.1	2.0
Highlands	Cadmium	12	0.1	4.0	2.5
Upper Valley	Cadmium	4	0.28	4.0	2.3
Shenandoah	Cadmium	5	1.0	4.0	1.0
Piedmont	Cadmium	10	1.0	5.0	1.0
Urban	Cadmium	42	1.0	18	3.5
Lower Estuary	Cadmium	6	1.0	55	4.5
Highlands	Chromium+6	8	1.0	2.0	1.0
Highlands	Chromium	13	0.1	80	4.0
Upper Valley	Chromium	8	0.5	4.0	2.4
Shenandoah	Chromium	5	1.0	4.0	3.0
Piedmont	Chromium	15	0.5	10	1.0
Urban	Chromium	45	0.5	10	7.5
Lower Estuary	Chromium	11	0.5	1.5	1.0
Highlands	Copper	11	0.1	10.5	4.0
Upper Valley	Copper	14	0.1	50	0.15
Shenandoah	Copper	5	4.0	10	10
Piedmont	Copper	10	1.0	10	10
Urban	Copper	42	10	25	17.5
Lower Estuary	Copper	10	10	200	10

STATUS AND TRENDS of TOXIC PARAMETERS in THE POTOMAC

Table I.1 Summary of Median Metals Concentrations (ug/l) in Potomac River Waters (1983-1988).

<u>Sub-basin</u>	<u>Parameter</u>	<u>No. Sta</u>	<u>Min</u>	<u>Max</u>	<u>Median</u>
Highlands	Lead	9	10	40	40
Upper Valley	Lead	4	4.0	40	28
Shenandoah	Lead	5	1.0	40	1.0
Piedmont	Lead	10	1.0	2.0	1.0
Urban	Lead	42	1.0	50	27.5
Lower Estuary	Lead	10	1.0	100	3.3
Highlands	Mercury	9	0.1	0.3	0.2
Upper Valley	Mercury	4	0.2	1.1	1
Shenandoah	Mercury	5	0.2	1.1	0.3
Piedmont	Mercury	10	0.3	0.3	0.3
Urban	Mercury	40	0.2	0.3	0.2
Lower Estuary	Mercury	6	0.3	0.3	0.3
Highlands	Nickel	9	10	40	40
Upper Valley	Nickel	4	10	100	25
Shenandoah	Nickel	5	10	40	10
Piedmont	Nickel	10	100	100	100
Urban	Nickel	8	100	100	100
Lower Estuary	Nickel	6	35	100	100
Highlands	Selenium	9	0.5	1.5	1.0
Upper Valley	Selenium	2	1.0	2.0	1.5
Shenandoah	Selenium	2	1.0	1.0	1.0
Piedmont	Selenium	10	1.0	4.3	2.9
Urban	Selenium	40	1.0	6.2	5.0
Lower Estuary	Selenium	6	2.0	3.1	2.0
Highlands	Silver	9	2.0	4.0	4.0
Upper Valley	Silver	2	2.0	4.0	4.0
Shenandoah	Silver	2	4.0	4.0	4.0
Highlands	Zinc	9	12	308	22
Upper Valley	Zinc	4	10	40	29
Shenandoah	Zinc	5	10	36	30
Piedmont	Zinc	10	10	40	10
Urban	Zinc	42	10	704	17
Lower Estuary	Zinc	10	10	1300	25

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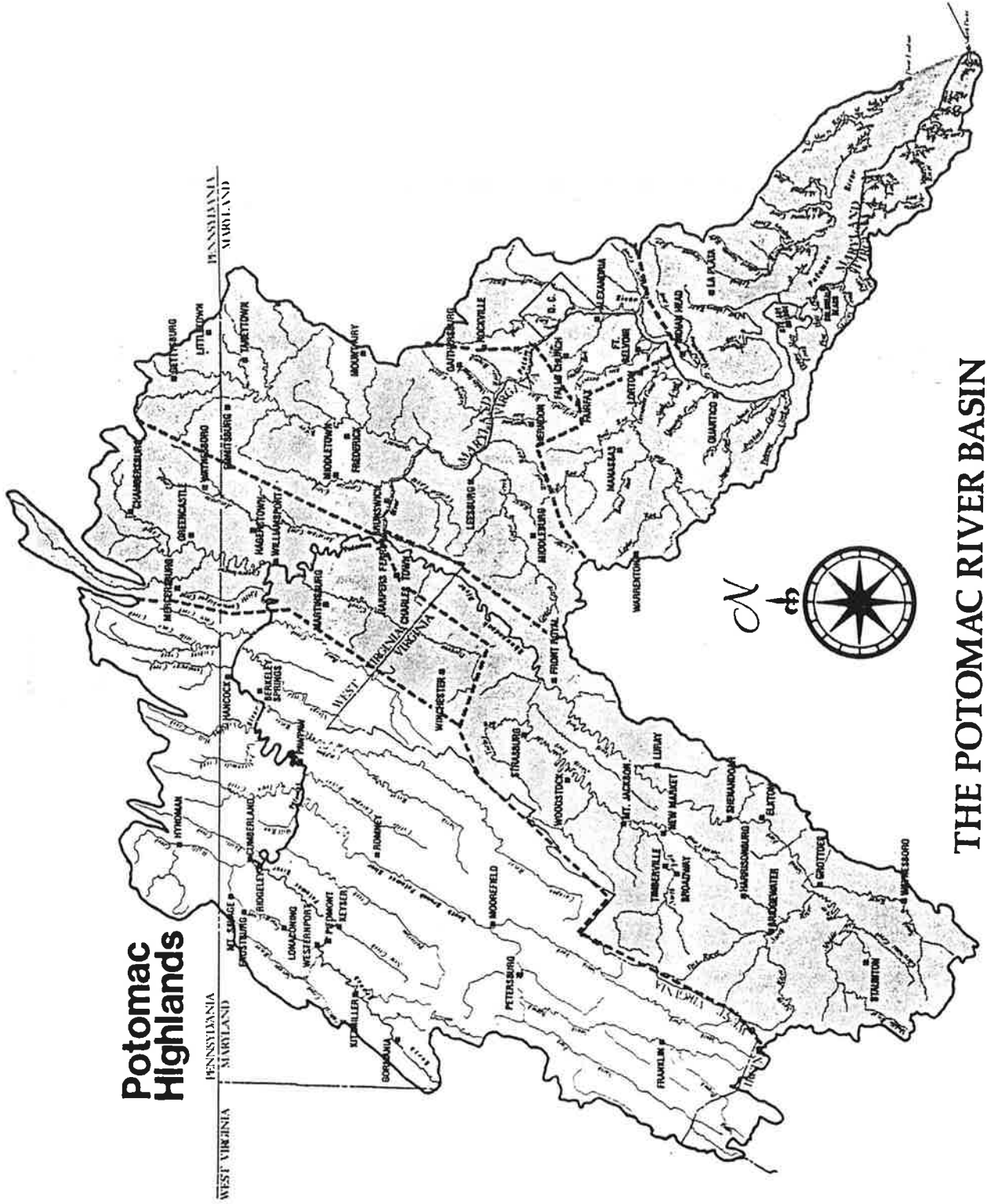
Table I.2 Summary of Median Metals Concentrations (mg/kg) in Potomac River Sediments (1983-1988)

Sub-basin	Parameter	No. Sta	Min	Max	Median
Shenandoah	Arsenic	14	1.6	23.2	11.2
Piedmont	Arsenic	9	2.5	12.9	6.8
Lower Estuary	Arsenic	6	7.0	25.1	11.7
Shenandoah	Beryllium	14	1.6	7.7	2.1
Piedmont	Beryllium	9	0.52	1.6	0.9
Lower Estuary	Beryllium	4	0.77	2.5	2.1
Shenandoah	Cadmium	13	0.16	0.8	0.22
Piedmont	Cadmium	9	0.18	4.1	0.27
Urban	Cadmium	6	0.20	1.87	0.22
Lower Estuary	Cadmium	6	0.20	0.21	0.20
Shenandoah	Chromium	14	5.4	74.8	20.6
Piedmont	Chromium	9	18.1	81.1	20.9
Urban	Chromium	6	7.2	32.7	26.6
Lower Estuary	Chromium	6	10.0	39.9	17.3
Shenandoah	Copper	14	4.0	56.1	19.5
Piedmont	Copper	9	23.2	72.8	23.5
Urban	Copper	6	3.6	70.5	30.1
Lower Estuary	Copper	6	3.1	81.7	21.3
Shenandoah	Lead	14	13.5	129	38.2
Piedmont	Lead	9	12.3	107	15.1
Urban	Lead	6	9.6	166	49.8
Lower Estuary	Lead	6	6.9	46.8	30.6
Shenandoah	Mercury	14	0.13	8.9	0.21
Piedmont	Mercury	9	0.10	0.22	0.10
Lower Estuary	Mercury	6	0.09	0.13	0.10
Shenandoah	Nickel	14	5.7	32.6	19.5
Piedmont	Nickel	9	9.8	29.6	16.1
Urban	Nickel	6	4.3	24.9	15.6
Lower Estuary	Nickel	6	3.0	13.5	9.1
Shenandoah	Zinc	14	23.9	862	76.3
Piedmont	Zinc	9	64.0	122	71.1
Urban	Zinc	6	16.5	373	111
Lower Estuary	Zinc	6	19.3	69.4	55.1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

II. POTOMAC HIGHLANDS

Map 2.



Potomac Highlands

THE POTOMAC RIVER BASIN

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II. POTOMAC HIGHLANDS

The Potomac Highlands subdivision, which contains Potomac River headwaters, extends 158 river miles (254 km) from Fairfax Stone, West Virginia, to the Appalachian Mountains. The North and South Branches of the Potomac are major tributaries in this subdivision. The Highlands is the only portion of the Potomac basin in which coal mining and related activities occur.

North Branch Potomac River

The North Branch Potomac River begins as a small spring, picking up tributary flows for 98 miles (158 km) until it meets the South Branch Potomac River downstream of Oldtown, Maryland and becomes the Potomac River proper.

More than ten years ago, the North Branch, Georges Creek, and the South Branch Potomac River below Moorefield, West Virginia were identified as critical areas (ICPRB, 1976; ICPRB, 1977). In the last thirteen years, however, changes in the watershed have brought water quality improvements. For example, the Bloomington Dam and Jennings Randolph Reservoir, completed in 1982, provide flood control, water supply, water quality, and recreation. Another water quality improvement was the requirement of point source dischargers to limit pollution levels in effluents, according to the Clean Water Act and its subsequent amendments. In addition, the Surface Mining Control and Reclamation Act of 1977 may have alleviated some of the impacts of active mining activities.

Toxics monitoring data are available for the following tributaries of the North Branch of the Potomac River:

- Stony River
- Elk Run
- Abram Creek
- Three Forks Run
- Deep Run
- Howell Run
- Elklick Run
- Savage River
- Aaron Run
- Georges Creek
- Wills Creek
- Patterson Creek

Although there are 37 stations with toxics monitoring data in the North Branch of the Potomac River (see tables on pp. II-6

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to II-25) only 7 have been sampled for toxics within the last 5 years.

The quantity of toxic parameter data and the length of monitoring record were sufficient for trend analysis at 6 stations in this portion of the Potomac River basin. In the upper reaches of the North Branch (upstream of Steyer, Maryland), there has been a significant downward trend in Copper levels in the past 10 years. Downward trends for Chromium, Lead, Nickel, Silver, and Zinc occurred as well. In Buffalo Creek, there were also small positive trends in Arsenic and Mercury. In Elk Run, a positive trend in Cadmium was detected from 1974 to 1977. Downstream near Pinto, Maryland, Hexavalent Chromium and Lead levels were decreasing in the early 1970's.

Antimony and Lead concentrations in water approach hazardous levels for drinking water at several North Branch Potomac River stations, including Stony River, Buffalo Creek, and Georges Creek. In 1984, the median Arsenic concentration of 80 ug/l in Buffalo Creek presented a cancer risk of approximately 13,000 in 1 million. However, since the median concentration in 1984 was much higher than the historical median (2 ug/l), further sampling is required to clarify the status of this tributary in regard to Arsenic. Analyses revealed low levels of metals and pesticides in fish tissue taken at Cumberland, Maryland in 1984. except for Alpha BHC, toxic parameter levels in fish presented no significant human health risk from fish consumption.

Cadmium, Lead, and Zinc concentrations in the last year of record may exceed West Virginia water quality standards for aquatic life.

South Branch Potomac River

The South Branch Potomac River flows northeast for 131 miles (211 km) and drains 2,941 square miles (7,617 sq km) of West Virginia and Virginia. Major tributaries are the North Fork and South Fork of the South Branch Potomac and Mill Creek.

Toxic chemical data for the majority of South Branch Potomac River sampling stations (see tables pp. II-25 to II-30) are relatively recent and sufficiently extensive for trend analysis. Trends observed for this portion of the Potomac include very small but significant positive trends for Antimony, Arsenic, Cadmium, Mercury, and Nickel. A downward trend in Lead concentrations occurred upstream in the South Branch in the 1970's. In contrast, a large upward trend in Lead has occurred

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
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downstream near Moorefield; at the same station, Copper levels were decreasing, and a large downward trend in Zinc has occurred. Although a positive trend in Hexavalent Chromium for the 1973-1984 period near Springfield, West Virginia, was recently detected (ICPRB, 1987), a significant decreasing trend in total Chromium was occurring at that station during the same time period.

Levels of Antimony that are hazardous in drinking water existed in South Branch Potomac water in 1984, and Lead in water posed a health hazard at one station. Fish tissue analyses in 1984 show that concentrations of most toxic parameters present no significant human health risk from fish consumption. Alpha-BHC levels in fish at two stations suggested a human health risk; however, since the reported concentrations at one station were at detection limit, actual Alpha-BHC levels may not present a health risk. At one station in Hardy County, West Virginia, a PCB 1260 concentration of 1 mg/kg in a single 1984 sample of fish tissue suggested a significant human cancer risk. Fish tissue levels of PCB 1260 in the previous year were 5 times lower than the 1984 level, however. Although fish tissue analyses are recent and cover a relatively wide spectrum of parameters, the quantity of data is not sufficient in many cases to adequately determine toxic status and human health risks from fish consumption.

Concentrations of metals, including Cadmium, Lead, Mercury, and Silver, were in possible violation of West Virginia criteria established for aquatic life and for recreational waters. In addition, Lead concentrations exceed the standard for water supplies at 2 stations.

Potomac River

The South Branch Potomac River joins the North Branch to form the Potomac River proper below Green Spring, West Virginia, and Oldtown, Maryland. Toxic chemical monitoring data is available for 20 stations (see tables pp. II-31 to II-43) in this portion of the river. Six stations have been monitored within the last 5 years. Tributaries of the Potomac in this segment include:

Town Creek
Little Cacapon River
Cacapon River
Tonoloway Creek
Sleepy Creek
Back Creek

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Potomac Tributaries

There are several consistent findings in regard to toxics status and trend in the tributaries of the lower Potomac Highlands. In Sleepy Creek and at 1 station in Back Creek, significant downward trends in Chromium occurred from 1968 through the 1970's. Curiously, Hexavalent Chromium levels in both tributaries were increasing slightly. Significant downward trends in Copper and Mercury are also detected in Back Creek.

Human health hazards for drinking water were presented by Antimony and Lead concentrations in Cacapon River and Back Creek. Lead, Cadmium, and Silver levels in the Cacapon River and Back Creek may also exceed West Virginia water quality standards. In the main stem Potomac at Paw Paw, West Virginia, Chromium, Lead, Mercury, and Silver concentrations exceed West Virginia standards. Analyses of fish tissue in Town Creek and in the Potomac main stem at Hancock, Maryland demonstrated low levels of toxics, thus posing no significant human health risk from fish consumption.

Summary

Toxic parameters have been monitored at 63 stations in the Potomac Highlands; however, at many stations, the sampling period was terminated in the 1970's or early 1980's. In addition, in many cases, short-term studies provided insufficient data for a complete analysis of toxics status and trend.

Trends

The only consistent significant trends occurring throughout this subdivision are decreasing trends in Copper and Chromium concentrations. Interestingly, Hexavalent Chromium levels have not changed significantly, although very small positive trends were noted at some stations. Scattered downward trends for metals, including Zinc, Mercury, Lead, Nickel, and Silver have occurred. A positive trend in Lead levels was found at one station on the South Branch.

Human Health; Toxic Status/Standards Exceedance

Antimony and Lead are the toxic parameters consistently posing human health hazard in drinking water in the Potomac Highlands, and Lead levels throughout the sub-basin may be in violation of West Virginia water quality standards. Other parameters found at levels exceeding standards include Cadmium, Zinc, Mercury, Silver, and Chromium.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	Stony River	<u>Station</u>	550554
<u>R. Mile</u>	361.70-6.40	<u>Agency</u>	WVDNR
<u>Location</u>	U.S. Route 50 Highway Bridge, Grant Co., W.Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Antimony	w	79-84	10(6)	-2.00	0.160	40.00	200.00	790919	1
Arsenic	w	74-86	38(30)	0.00	0.020	2.00	30.00	840919	3
Cadmium	w	74-86	123(112)	0.00	0.010	4.00	192.00	831012	1
Chromium	w	74-87	78(50)	0.00	0.400	6.00	68.00	780816	1
Chromium+6	w	74-84	72(43)	0.00	0.500	1.00	11.00	840625	3
Copper	w	74-87	91(6)	-0.86	0.000	10.00	420.00	750319	1
Lead	w	74-87	130(89)	0.00	0.500	20.00	100.00	761103	5
Mercury	w	74-87	72(59)	0.00	0.000	0.20	0.42	741112	1
Nickel	w	74-87	23(7)	-5.00	0.010	40.00	130.00	790919	1
Selenium	w	75-87	44(33)	0.00	0.000	1.00	5.00	790117	1
Silver	w	74-87	48(34)	0.00	0.000	4.00	28.00	760804	1
Zinc	w	74-87	79(0)	-3.39	0.040	81.00	860.00	770622	1
Cyanide	w	74-84	40(15)	0.00	0.080	0.00	0.01	740715	1
Phenols	w	82-84	21(15)	0.00	0.270	1.00	3.00	841011	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Antimony	w	840327	2	40.00	40.00	0.00	2.8600	NA
Arsenic	w	861023	4	0.45	0.45	0.06	NA	193
Cadmium	w	860818	2	1.00	1.00	0.00	0.0986	NA
Chromium	w	871214	9	10.00	10.00	0.00	0.0572	NA
Chromium+6	w	841011	11	1.00	2.45	2.98	0.0057	NA
Copper	w	871214	9	2.00	2.44	0.88	0.0015	NA
Lead	w	871214	9	10.00	13.11	4.91	0.2043	NA
Mercury	w	871214	9	0.10	0.11	0.05	0.0014	NA
Nickel	w	871214	5	20.00	17.20	7.01	0.0572	NA
Selenium	w	871214	9	0.50	0.52	0.08	0.0048	NA
Silver	w	871214	9	2.00	2.00	0.00	0.0191	NA
Zinc	w	871214	9	22.00	25.00	11.92	0.0030	NA
Cyanide	w	840525	3	0.00	0.00	0.00	0.0000	NA
Phenols	w	841011	9	1.00	1.56	0.73	0.0003	NA

<u>River</u>	Stony River	<u>Station</u>	550891
<u>R. Mile</u>	361.70-12.18	<u>Agency</u>	WVDNR
<u>Location</u>	.75 miles below Mt. Storm Dam, Grant Co., W.Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-86	4(4)	NA	NA	0.45	0.50	860716	2
Cadmium	w	86-86	2(2)	NA	NA	1.00	1.00	860818	2
Chromium	w	86-87	16(16)	NA	NA	10.00	10.00	871214	16
Copper	w	86-87	17(6)	NA	NA	2.00	4.00	860422	1
Lead	w	86-87	18(18)	NA	NA	10.00	10.00	871214	18
Mercury	w	86-87	17(9)	NA	NA	0.10	0.20	870331	2
Nickel	w	86-87	9(5)	NA	NA	12.00	20.00	871214	1
Selenium	w	86-87	17(15)	NA	NA	0.50	1.00	861111	2
Silver	w	86-87	17(17)	NA	NA	2.00	2.00	871214	17
Zinc	w	86-87	17(0)	NA	NA	20.00	40.00	860916	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

Station 550891 (cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	861023	4	0.45	0.45	0.06	NA	193
Cadmium	w	860818	2	1.00	1.00	0.00	0.0986	NA
Chromium	w	871214	9	10.00	10.00	0.00	0.0572	NA
Copper	w	871214	9	2.00	2.00	0.00	0.0015	NA
Lead	w	871214	9	10.00	10.00	0.00	0.2043	NA
Mercury	w	871214	9	0.10	0.12	0.04	0.0014	NA
Nickel	w	871214	5	10.00	13.60	4.98	0.0286	NA
Selenium	w	871214	9	0.50	0.51	0.06	0.0048	NA
Silver	w	871214	9	2.00	2.00	0.00	0.0191	NA
Zinc	w	871214	9	19.00	19.00	9.85	0.0026	NA

<u>River</u>	Elk Run	<u>Station</u>	550556
<u>R. Mile</u>	383.20-.10	<u>Agency</u>	WVDNR
<u>Location</u>	Elk Run at Route 90 near Henry		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	74-77	9(7)	NA	NA	2.00	17.00	760804	1
Cadmium	w	74-77	33(22)	1.00	0.060	4.00	16.00	760804	1
Chromium	w	74-77	31(16)	0.00	0.500	12.00	50.00	761103	1
Chromium+6	w	74-74	4(3)	NA	NA	1.00	1.00	740917	4
Copper	w	74-77	33(0)	-2.00	0.240	14.00	156.00	760406	1
Lead	w	74-77	25(15)	1.25	0.500	40.00	100.00	761103	6
Mercury	w	74-77	28(25)	-0.01	0.180	0.20	2.00	750916	1
Nickel	w	74-74	2(1)	NA	NA	25.00	30.00	740715	1
Selenium	w	75-77	7(5)	NA	NA	1.00	3.00	760804	1
Silver	w	74-77	12(2)	3.50	0.150	7.50	20.00	761103	3
Zinc	w	74-77	32(0)	18.00	0.080	58.00	1220.00	740715	1
Cyanide	w	74-76	11(7)	NA	NA	0.00	0.00	741112	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770125	4	4.50	7.00	7.07	NA	1931
Cadmium	w	770301	13	4.00	5.54	3.38	0.3945	NA
Chromium	w	770301	13	12.00	13.85	12.82	0.0686	NA
Chromium+6	w	740917	4	1.00	1.00	0.00	0.0057	NA
Copper	w	770301	13	14.00	25.23	39.69	0.0108	NA
Lead	w	770301	13	60.00	62.31	34.19	1.2257	NA
Mercury	w	770301	13	0.20	0.20	0.00	0.0029	NA
Nickel	w	740715	2	25.00	25.00	7.07	0.0715	NA
Selenium	w	770125	4	1.00	1.50	1.00	0.0095	NA
Silver	w	770125	5	20.00	14.80	7.26	0.1907	NA
Zinc	w	770301	12	66.00	84.50	48.61	0.0090	NA
Cyanide	w	761103	2	0.00	0.00	0.00	0.0000	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	Buffalo Creek	<u>Station</u>	550555
<u>R. Mile</u>	377.00-.10	<u>Agency</u>	WVDNR
<u>Location</u>	State Route 90 Highway Bridge, Grant Co., W.Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Antimony	w	79-84	12(5)	12.50	0.500	70.00	200.00	820421	2
Arsenic	w	74-84	33(23)	0.00	0.010	2.00	280.00	740617	1
Cadmium	w	74-84	62(34)	0.00	0.350	4.00	36.00	740617	1
Chromium	w	74-84	51(19)	-0.62	0.010	10.00	120.00	761103	1
Chromium+6	w	74-84	27(14)	0.00	0.220	1.00	6.00	740715	1
Copper	w	74-84	63(5)	-3.75	0.010	32.00	220.00	771227	1
Lead	w	74-84	53(22)	0.00	0.500	40.00	140.00	760907	1
Mercury	w	74-84	49(43)	0.00	0.060	0.20	4.20	801021	1
Nickel	w	74-84	16(9)	0.00	0.410	40.00	280.00	831012	1
Selenium	w	74-84	27(22)	0.00	0.310	1.00	4.00	791119	1
Silver	w	74-84	31(15)	-0.50	0.010	4.00	24.00	761103	2
Zinc	w	74-84	52(1)	-5.33	0.360	243.00	2320.00	750715	1
Cyanide	w	74-84	40(16)	0.00	0.300	0.00	1.00	770622	2
Phenols	w	82-84	8(6)	1.00	0.270	1.00	3.00	841011	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Antimony	w	840504	2	80.00	80.00	56.57	5.7200	NA
Arsenic	w	841011	3	30.00	33.33	5.77	NA	12870
Cadmium	w	841011	4	4.00	5.00	2.00	0.3945	NA
Chromium	w	841011	3	4.00	4.00	0.00	0.0229	NA
Chromium+6	w	841011	4	2.00	2.25	1.50	0.0114	NA
Copper	w	841011	4	10.50	19.25	22.50	0.0081	NA
Lead	w	841011	3	40.00	40.00	0.00	0.8171	NA
Mercury	w	841011	3	0.20	0.20	0.00	0.0029	NA
Nickel	w	841011	3	40.00	120.00	138.56	0.1144	NA
Selenium	w	841011	2	1.00	1.00	0.00	0.0095	NA
Silver	w	841011	3	4.00	4.00	0.00	0.0381	NA
Zinc	w	841011	3	308.00	309.33	260.00	0.0419	NA
Cyanide	w	841011	2	0.00	0.00	0.00	0.0000	NA
Phenols	w	841011	4	1.00	1.50	1.00	0.0003	NA

<u>River</u>	North Branch Potomac River	<u>Station</u>	01595000
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Steyer, Garrett Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	79-79	1(0)	NA	NA	1.00	1.00	790821	1
Cadmium	s	79-79	1(1)	NA	NA	10.00	10.00	790821	1
Cadmium	w	79-79	1(0)	NA	NA	2.00	2.00	790821	1
Chromium	w	79-79	1(1)	NA	NA	20.00	20.00	790821	1
Chromium	s	79-79	1(0)	NA	NA	20.00	20.00	790821	1
Copper	s	79-79	1(0)	NA	NA	20.00	20.00	790821	1
Copper	w	79-79	1(0)	NA	NA	12.00	12.00	790821	1
Lead	s	79-79	1(0)	NA	NA	20.00	20.00	790821	1
Lead	w	79-79	1(0)	NA	NA	8.00	8.00	790821	1
Mercury	w	79-81	2(2)	NA	NA	0.30	0.50	790821	1
Selenium	w	79-79	1(1)	NA	NA	1.00	1.00	790821	1
Silver	w	79-79	1(1)	NA	NA	2.00	2.00	790821	1
Zinc	s	79-79	1(0)	NA	NA	50.00	50.00	790821	1
Zinc	w	79-79	1(0)	NA	NA	200.00	200.00	790821	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

Station 01595000 (cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790821	1	1.00	1.00	0.00	NA	429
Cadmium	s	790821	1	10.00	10.00	0.00	NA	NA
Cadmium	w	790821	1	2.00	2.00	0.00	0.1972	NA
Chromium	w	790821	1	20.00	20.00	0.00	0.1144	NA
Chromium	s	790821	1	20.00	20.00	0.00	NA	NA
Copper	s	790821	1	20.00	20.00	0.00	NA	NA
Copper	w	790821	1	12.00	12.00	0.00	0.0093	NA
Lead	s	790821	1	20.00	20.00	0.00	NA	NA
Lead	w	790821	1	8.00	8.00	0.00	0.1634	NA
Mercury	w	810825	1	0.10	0.10	0.00	0.0014	NA
Selenium	w	790821	1	1.00	1.00	0.00	0.0095	NA
Silver	w	790821	1	2.00	2.00	0.00	0.0191	NA
Zinc	s	790821	1	50.00	50.00	0.00	NA	NA
Zinc	w	790821	1	200.00	200.00	0.00	0.0272	NA

<u>River</u>	Abram Creek	<u>Station</u> 01595300
<u>R. Mile</u>		<u>Agency</u> USGS
<u>Location</u>	Oakmont, Mineral Co., W.Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	s	79-79	1(1)	NA	NA	10.00	10.00	790910	1
Chromium	s	79-79	1(1)	NA	NA	10.00	10.00	790910	1
Copper	s	79-79	1(0)	NA	NA	10.00	10.00	790910	1
Lead	s	79-79	1(1)	NA	NA	10.00	10.00	790910	1
Zinc	s	79-79	1(0)	NA	NA	90.00	90.00	790910	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	s	790910	1	10.00	10.00	0.00	NA	NA
Chromium	s	790910	1	10.00	10.00	0.00	NA	NA
Copper	s	790910	1	10.00	10.00	0.00	NA	NA
Lead	s	790910	1	10.00	10.00	0.00	NA	NA
Zinc	s	790910	1	90.00	90.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	North Branch Potomac River	<u>Station</u>	01595500
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Kitzmilller, Garrett Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	72-81	3(1)	NA	NA	7.00	19.00	760901	1
Arsenic	w	76-81	2(1)	NA	NA	1.00	1.00	810826	2
Cadmium	s	72-81	4(3)	NA	NA	5.50	10.00	800909	2
Cadmium	w	81-81	1(0)	NA	NA	2.00	2.00	810826	1
Chromium	w	76-81	3(1)	NA	NA	20.00	80.00	800909	1
Chromium	s	72-81	5(0)	NA	NA	5.00	10.00	790822	2
Copper	s	72-81	5(1)	NA	NA	10.00	20.00	760901	1
Copper	w	80-81	2(0)	NA	NA	6.00	7.00	810826	1
Lead	s	72-81	5(1)	NA	NA	10.00	20.00	790822	2
Lead	w	76-81	3(0)	NA	NA	2.00	8.00	810826	1
Mercury	s	72-81	3(1)	NA	NA	0.03	0.10	760901	1
Mercury	w	76-81	3(3)	NA	NA	0.10	0.50	760901	1
Nickel	s	72-76	2(0)	NA	NA	10.85	20.00	760901	1
Selenium	w	76-81	2(1)	NA	NA	1.00	1.00	810826	2
Silver	w	81-81	1(1)	NA	NA	1.00	1.00	810826	1
Zinc	s	72-81	5(0)	NA	NA	30.00	90.00	790822	1
Zinc	w	76-81	3(0)	NA	NA	120.00	140.00	810826	1
Dieldrin	s	72-76	2(0)	NA	NA	0.45	0.70	760901	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	810826	1	1.00	1.00	0.00	NA	NA
Arsenic	w	810826	1	1.00	1.00	0.00	NA	429
Cadmium	s	810826	2	5.50	5.50	6.36	NA	NA
Cadmium	w	810826	1	2.00	2.00	0.00	0.1972	NA
Chromium	w	810826	2	45.00	45.00	49.50	0.2574	NA
Chromium	s	810826	2	5.00	5.00	0.00	NA	NA
Copper	s	810826	2	8.50	8.50	2.12	NA	NA
Copper	w	810826	2	6.00	6.00	1.41	0.0046	NA
Lead	s	810826	2	10.00	10.00	0.00	NA	NA
Lead	w	810826	2	4.50	4.50	4.95	0.0919	NA
Mercury	s	810826	1	0.01	0.01	0.00	NA	NA
Mercury	w	810826	2	0.10	0.10	0.00	0.0014	NA
Nickel	s	760901	1	20.00	20.00	0.00	NA	NA
Selenium	w	810826	1	1.00	1.00	0.00	0.0095	NA
Silver	w	810826	1	1.00	1.00	0.00	0.0095	NA
Zinc	s	810826	2	25.50	25.50	7.78	NA	NA
Zinc	w	810826	2	120.00	120.00	28.28	0.0163	NA
Dieldrin	s	760901	1	0.70	0.70	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	North Branch Potomac River	<u>Station</u> NBP0689
<u>R. Mile</u>	68.9	<u>Agency</u> 21MDOEP
<u>Location</u>	Downstream of Md. Rt. 38	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770913	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770913	1	0.10	0.10	0.00	0.0001	NA

<u>River</u>	Three Forks Run	<u>Station</u> TFR0000
<u>R. Mile</u>	.00	<u>Agency</u> MDOEP
<u>Location</u>	Above confluence with N. Branch, 2 miles NE of Kitzmiller	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770913	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770913	1	0.10	0.10	0.00	0.0001	NA

<u>River</u>	Deep Run	<u>Station</u> DPQ0000
<u>R. Mile</u>		<u>Agency</u> MDOEP
<u>Location</u>	3.7 mi. NE of Kitzmiller: via WV Rt's 42 & 46	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770913	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770913	1	0.10	0.10	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	Howell Run	<u>Station</u>	HWL0000
<u>R. Mile</u>	.00	<u>Agency</u>	MDOEP
<u>Location</u>	Access Kitzmiller on Rt. 42 & 46, 3.7 mi. NE of Kitzmiller		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	84-84	1(1)	NA	NA	0.10	0.10	841015	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	841015	1	0.10	0.10	0.00	0.0099	NA

<u>River</u>	Elklick Run	<u>Station</u>	EKL0000
<u>R. Mile</u>	.01	<u>Agency</u>	MDOEP
<u>Location</u>	Elklick Run just above its mouth		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770913	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770913	1	0.10	0.10	0.00	0.0001	NA

<u>River</u>	North Branch Potomac River	<u>Station</u>	NBP0597
<u>R. Mile</u>	59.70	<u>Agency</u>	MDOEP
<u>Location</u>	USGS Gage at Bridge at Barnum		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770913	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770913	1	0.10	0.10	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	North Branch Potomac River	<u>Station</u>	01595800
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Lat.39 26 44 Long. 79 06 39 at Barnum		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	79-79	1(0)	NA	NA	1.00	1.00	790822	1
Cadmium	s	79-79	1(1)	NA	NA	10.00	10.00	790822	1
Cadmium	w	73-73	1(1)	NA	NA	2.00	2.00	730913	1
Chromium	w	69-73	2(1)	NA	NA	16.00	20.00	730913	1
Chromium	s	79-79	1(0)	NA	NA	10.00	10.00	790822	1
Copper	s	79-79	1(0)	NA	NA	20.00	20.00	790822	1
Copper	w	73-73	1(1)	NA	NA	20.00	20.00	730913	1
Lead	s	79-79	1(0)	NA	NA	20.00	20.00	790822	1
Lead	w	73-73	1(0)	NA	NA	5.00	5.00	730913	1
Zinc	s	79-79	1(0)	NA	NA	60.00	60.00	790822	1
Zinc	w	73-73	2(0)	NA	NA	185.00	250.00	730913	1
Cyanide	w	72-73	3(0)	NA	NA	0.01	0.01	731204	3
Phenols	w	72-73	4(0)	NA	NA	9.50	130.00	720928	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	790822	1	1.00	1.00	0.00	NA	NA
Cadmium	s	790822	1	10.00	10.00	0.00	NA	NA
Cadmium	w	730913	1	2.00	2.00	0.00	0.1972	NA
Chromium	w	730913	1	20.00	20.00	0.00	0.1144	NA
Chromium	s	790822	1	10.00	10.00	0.00	NA	NA
Copper	s	790822	1	20.00	20.00	0.00	NA	NA
Copper	w	730913	1	20.00	20.00	0.00	0.0155	NA
Lead	s	790822	1	20.00	20.00	0.00	NA	NA
Lead	w	730913	1	5.00	5.00	0.00	0.1021	NA
Zinc	s	790822	1	60.00	60.00	0.00	NA	NA
Zinc	w	731204	2	185.00	185.00	91.92	0.0252	NA
Cyanide	w	731204	2	0.01	0.01	0.00	NA	NA
Phenols	w	731204	3	8.00	7.33	4.04	0.0023	NA

<u>River</u>	North Branch Potomac River	<u>Station</u>	NBPO534
<u>R. Mile</u>	53.4	<u>Agency</u>	21MDOEP
<u>Location</u>	At Bloomington, upstream from Savage River		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770913	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770913	1	0.10	0.10	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	Savage River	<u>Station</u>	SAV0037
<u>R. Mile</u>	3.70	<u>Agency</u>	MDOEP
<u>Location</u>	Gaging Station 0.7 mi. below Savage River Dam USGS-01597500		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770913	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770913	1	0.10	0.10	0.00	0.0001	NA

<u>River</u>	Aaron Run	<u>Station</u>	AAR0000
<u>R. Mile</u>	.01	<u>Agency</u>	MDOEP
<u>Location</u>	1.2 MNW of Bloomington along Savage River		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770913	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770913	1	0.10	0.10	0.00	0.0001	NA

<u>River</u>	Savage River	<u>Station</u>	SAV0000
<u>R. Mile</u>	0	<u>Agency</u>	21MDOEP
<u>Location</u>	MD Rt. 135		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	84-84	1(0)	NA	NA	0.30	0.30	841211	1
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	841211	1	0.30	0.30	0.00	0.0296	NA
Chromium	w	770913	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770913	1	0.10	0.10	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	Savage River	<u>Station</u> 01597500
<u>R. Mile</u>		<u>Agency</u> USGS
<u>Location</u>	Below Savage River Dam near Bloomington, Garrett Co., Md.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	79-79	1(0)	NA	NA	1.00	1.00	790821	1
Arsenic	w	79-79	1(0)	NA	NA	1.00	1.00	790821	1
Cadmium	s	79-79	1(1)	NA	NA	10.00	10.00	790821	1
Cadmium	w	79-79	1(0)	NA	NA	2.00	2.00	790821	1
Chromium	w	79-79	1(1)	NA	NA	20.00	20.00	790821	1
Chromium	s	79-79	1(0)	NA	NA	10.00	10.00	790821	1
Copper	s	79-79	1(0)	NA	NA	10.00	10.00	790821	1
Copper	w	79-79	1(0)	NA	NA	5.00	5.00	790821	1
Lead	s	79-79	1(1)	NA	NA	10.00	10.00	790821	1
Lead	w	79-79	1(0)	NA	NA	9.00	9.00	790821	1
Mercury	w	79-79	1(1)	NA	NA	0.50	0.50	790821	1
Selenium	w	79-79	1(1)	NA	NA	1.00	1.00	790821	1
Silver	w	79-79	1(1)	NA	NA	2.00	2.00	790821	1
Zinc	s	79-79	1(0)	NA	NA	60.00	60.00	790821	1
Zinc	w	79-79	1(1)	NA	NA	20.00	20.00	790821	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	790821	1	1.00	1.00	0.00	NA	NA
Arsenic	w	790821	1	1.00	1.00	0.00	NA	429
Cadmium	s	790821	1	10.00	10.00	0.00	NA	NA
Cadmium	w	790821	1	2.00	2.00	0.00	0.1972	NA
Chromium	w	790821	1	20.00	20.00	0.00	0.1144	NA
Chromium	s	790821	1	10.00	10.00	0.00	NA	NA
Copper	s	790821	1	10.00	10.00	0.00	NA	NA
Copper	w	790821	1	5.00	5.00	0.00	0.0039	NA
Lead	s	790821	1	10.00	10.00	0.00	NA	NA
Lead	w	790821	1	9.00	9.00	0.00	0.1839	NA
Mercury	w	790821	1	0.50	0.50	0.00	0.0072	NA
Selenium	w	790821	1	1.00	1.00	0.00	0.0095	NA
Silver	w	790821	1	2.00	2.00	0.00	0.0191	NA
Zinc	s	790821	1	60.00	60.00	0.00	NA	NA
Zinc	w	790821	1	20.00	20.00	0.00	0.0027	NA

<u>River</u>	Georges Creek	<u>Station</u> GEO0009
<u>R. Mile</u>	.9	<u>Agency</u> 21MDOEP
<u>Location</u>	1 mile north of Westernport	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	84-84	1(0)	NA	NA	3.00	3.00	840207	1
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	840207	1	3.00	3.00	0.00	0.2959	NA
Chromium	w	770913	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770913	1	0.10	0.10	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	Georges Creek	<u>Station</u>	01599000
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Franklin, Allegany Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	79-79	1(0)	NA	NA	1.00	1.00	790821	1
Cadmium	s	79-79	1(1)	NA	NA	10.00	10.00	790821	1
Cadmium	w	79-79	1(0)	NA	NA	8.00	8.00	790821	1
Chromium	w	70-79	2(1)	NA	NA	13.50	20.00	790821	1
Chromium	s	79-79	1(0)	NA	NA	30.00	30.00	790821	1
Copper	s	79-79	1(0)	NA	NA	30.00	30.00	790821	1
Copper	w	79-79	1(0)	NA	NA	20.00	20.00	790821	1
Lead	s	79-79	1(0)	NA	NA	40.00	40.00	790821	1
Lead	w	79-79	1(0)	NA	NA	130.00	130.00	790821	1
Mercury	w	79-79	1(1)	NA	NA	0.50	0.50	790821	1
Selenium	w	79-79	1(1)	NA	NA	1.00	1.00	790821	1
Zinc	s	79-79	1(0)	NA	NA	100.00	100.00	790821	1
Zinc	w	79-79	1(0)	NA	NA	140.00	140.00	790821	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790821	1	1.00	1.00	0.00	NA	429
Cadmium	s	790821	1	10.00	10.00	0.00	NA	NA
Cadmium	w	790821	1	8.00	8.00	0.00	0.7890	NA
Chromium	w	790821	1	20.00	20.00	0.00	0.1144	NA
Chromium	s	790821	1	30.00	30.00	0.00	NA	NA
Copper	s	790821	1	30.00	30.00	0.00	NA	NA
Copper	w	790821	1	20.00	20.00	0.00	0.0155	NA
Lead	s	790821	1	40.00	40.00	0.00	NA	NA
Lead	w	790821	1	130.00	130.00	0.00	2.6557	NA
Mercury	w	790821	1	0.50	0.50	0.00	0.0072	NA
Selenium	w	790821	1	1.00	1.00	0.00	0.0095	NA
Zinc	s	790821	1	100.00	100.00	0.00	NA	NA
Zinc	w	790821	1	140.00	140.00	0.00	0.0191	NA

<u>River</u>	North Branch Potomac River	<u>Station</u>	NBP0514
<u>R. Mile</u>	51.40	<u>Agency</u>	MDOEP
<u>Location</u>	North Branch at Piedmont		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770913	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770913	1	0.10	0.10	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	North Branch Potomac River	<u>Station</u>	NBP0461
<u>R. Mile</u>	46.1	<u>Agency</u>	21MDOEP
<u>Location</u>	Bridge on Rt. 220		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770913	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770913	1	0.10	0.10	0.00	0.0001	NA

<u>River</u>	New Creek	<u>Station</u>	NWC0000
<u>R. Mile</u>	.00	<u>Agency</u>	MDOEP
<u>Location</u>	Just above confluence with North Braccess from Keyser WV		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770913	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770913	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770913	1	0.10	0.10	0.00	0.0001	NA

<u>River</u>	North Branch Potomac River	<u>Station</u>	NBP0326
<u>R. Mile</u>	32.6	<u>Agency</u>	21MDOEP
<u>Location</u>	Gaging Station near Md. RR Bridge at Pinto		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	80-80	1(0)	NA	NA	1.00	1.00	800812	1
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770912	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770912	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	800812	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	770912	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770912	1	0.10	0.10	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	North Branch Potomac River	<u>Station</u>	550467
<u>R. Mile</u>	295.00	<u>Agency</u>	WVDNR
<u>Location</u>	Route 9 Bridge at Pinto, Mineral Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-74	4(0)	NA	NA	7.50	11.00	710420	1
Cadmium	w	71-74	16(15)	5.50	0.130	3.00	20.00	740611	1
Chromium+6	w	68-74	45(21)	-0.80	0.000	1.00	107.00	701019	1
Copper	w	71-74	5(3)	NA	NA	10.00	40.00	711018	1
Lead	w	71-74	24(18)	-10.00	0.030	38.00	400.00	710315	1
Mercury	w	70-74	15(10)	NA	NA	0.30	1.00	700831	1
Silver	w	71-74	15(14)	0.00	0.500	2.00	10.00	720829	4
Zinc	w	72-74	5(0)	NA	NA	20.00	110.00	740122	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	740122	2	7.50	7.50	2.12	NA	3218
Cadmium	w	740611	3	3.00	8.33	10.12	0.2959	NA
Chromium+6	w	740611	9	1.00	1.00	0.00	0.0057	NA
Copper	w	740122	3	10.00	7.00	5.20	0.0077	NA
Lead	w	740611	9	30.00	34.44	16.67	0.6129	NA
Mercury	w	740122	5	0.20	0.20	0.00	0.0029	NA
Silver	w	740122	3	2.00	2.00	0.00	0.0191	NA
Zinc	w	740611	3	20.00	43.67	58.23	0.0027	NA

<u>River</u>	North Branch Potomac River	<u>Station</u>	01600000
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Pinto, MD		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	79-79	1(0)	NA	NA	1.00	1.00	790822	1
Cadmium	s	79-79	1(1)	NA	NA	10.00	10.00	790822	1
Cadmium	w	79-79	1(0)	NA	NA	8.00	8.00	790822	1
Chromium	w	70-79	3(2)	NA	NA	20.00	20.00	790822	2
Chromium	s	79-79	1(0)	NA	NA	20.00	20.00	790822	1
Copper	s	79-79	1(0)	NA	NA	20.00	20.00	790822	1
Copper	w	73-79	3(2)	NA	NA	20.00	20.00	731205	2
Lead	s	79-79	1(0)	NA	NA	30.00	30.00	790822	1
Lead	w	73-79	3(0)	NA	NA	3.00	110.00	790822	1
Mercury	w	79-79	1(1)	NA	NA	0.50	0.50	790822	1
Selenium	w	79-79	1(1)	NA	NA	1.00	1.00	790822	1
Silver	w	79-79	1(1)	NA	NA	2.00	2.00	790822	1
Zinc	s	79-79	1(0)	NA	NA	150.00	150.00	790822	1
Zinc	w	73-79	3(0)	NA	NA	50.00	120.00	731205	1
Cyanide	w	73-73	3(0)	NA	NA	0.01	0.01	731205	3
Phenols	w	70-73	5(0)	NA	NA	5.00	13.00	701006	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

Station 01600000 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790822	1	1.00	1.00	0.00	NA	429
Cadmium	s	790822	1	10.00	10.00	0.00	NA	NA
Cadmium	w	790822	1	8.00	8.00	0.00	0.7890	NA
Chromium	w	790822	1	20.00	20.00	0.00	0.1144	NA
Chromium	s	790822	1	20.00	20.00	0.00	NA	NA
Copper	s	790822	1	20.00	20.00	0.00	NA	NA
Copper	w	790822	1	12.00	12.00	0.00	0.0093	NA
Lead	s	790822	1	30.00	30.00	0.00	NA	NA
Lead	w	790822	1	110.00	110.00	0.00	2.2471	NA
Mercury	w	790822	1	0.50	0.50	0.00	0.0072	NA
Selenium	w	790822	1	1.00	1.00	0.00	0.0095	NA
Silver	w	790822	1	2.00	2.00	0.00	0.0191	NA
Zinc	s	790822	1	150.00	150.00	0.00	NA	NA
Zinc	w	790822	1	50.00	50.00	0.00	0.0068	NA
Cyanide	w	731205	3	0.01	0.01	0.00	NA	NA
Phenols	w	731205	3	1.00	4.00	5.20	0.0003	NA

<u>River</u>	North Branch Potomac River	<u>Station</u>	NBP0217
<u>R. Mile</u>	21.70	<u>Agency</u>	MDOEP
<u>Location</u>	Ridgley Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770912	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770912	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770912	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770912	1	0.10	0.10	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	Wills Creek	<u>Station</u>	01601500
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Cumberland, Allegany Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	79-79	1(0)	NA	NA	1.00	1.00	790820	1
Cadmium	s	79-79	1(1)	NA	NA	10.00	10.00	790820	1
Cadmium	w	79-79	1(0)	NA	NA	9.00	9.00	790820	1
Chromium	w	79-79	1(1)	NA	NA	20.00	20.00	790820	1
Chromium	s	79-79	1(1)	NA	NA	10.00	10.00	790820	1
Copper	s	79-79	1(0)	NA	NA	20.00	20.00	790820	1
Copper	w	79-79	1(0)	NA	NA	11.00	11.00	790820	1
Lead	s	79-79	1(0)	NA	NA	30.00	30.00	790820	1
Lead	w	79-79	1(0)	NA	NA	47.00	47.00	790820	1
Mercury	w	79-79	1(1)	NA	NA	0.50	0.50	790820	1
Selenium	w	79-79	1(1)	NA	NA	1.00	1.00	790820	1
Silver	w	79-79	1(1)	NA	NA	2.00	2.00	790820	1
Zinc	s	79-79	1(0)	NA	NA	150.00	150.00	790820	1
Zinc	w	79-79	1(0)	NA	NA	20.00	20.00	790820	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790820	1	1.00	1.00	0.00	NA	429
Cadmium	s	790820	1	10.00	10.00	0.00	NA	NA
Cadmium	w	790820	1	9.00	9.00	0.00	0.8876	NA
Chromium	w	790820	1	20.00	20.00	0.00	0.1144	NA
Chromium	s	790820	1	10.00	10.00	0.00	NA	NA
Copper	s	790820	1	20.00	20.00	0.00	NA	NA
Copper	w	790820	1	11.00	11.00	0.00	0.0085	NA
Lead	s	790820	1	30.00	30.00	0.00	NA	NA
Lead	w	790820	1	47.00	47.00	0.00	0.9601	NA
Mercury	w	790820	1	0.50	0.50	0.00	0.0072	NA
Selenium	w	790820	1	1.00	1.00	0.00	0.0095	NA
Silver	w	790820	1	2.00	2.00	0.00	0.0191	NA
Zinc	s	790820	1	150.00	150.00	0.00	NA	NA
Zinc	w	790820	1	20.00	20.00	0.00	0.0027	NA

<u>River</u>	Wills Creek	<u>Station</u>	WIL0013
<u>R. Mile</u>	1.3	<u>Agency</u>	21MDOEP
<u>Location</u>	Gaging Station - Confl/Braddock Run		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770912	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770912	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770912	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770912	1	0.10	0.10	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	North Branch Potomac River	<u>Station</u>	NBP0196
<u>R. Mile</u>	19.60	<u>Agency</u>	MDOEP
<u>Location</u>	North Branch at Wiley Ford Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770912	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770912	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770912	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770912	1	0.10	0.10	0.00	0.0001	NA

<u>River</u>	North Branch Potomac River	<u>Station</u>	01603000
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Near Cumberland, Allegany Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	81-81	1(1)	NA	NA	1.00	1.00	810825	1
Arsenic	w	79-81	2(0)	NA	NA	2.00	2.00	810825	2
Cadmium	s	79-81	2(2)	NA	NA	5.50	10.00	790822	1
Cadmium	w	79-81	2(1)	NA	NA	1.50	2.00	790822	1
Chromium	w	69-81	5(2)	NA	NA	10.00	20.00	790822	2
Chromium	s	79-81	2(0)	NA	NA	17.50	30.00	790822	1
Copper	s	79-81	2(0)	NA	NA	41.50	63.00	810825	1
Copper	w	73-81	3(1)	NA	NA	9.00	20.00	730914	1
Lead	s	79-81	2(0)	NA	NA	70.00	90.00	790822	1
Lead	w	73-81	3(0)	NA	NA	7.00	84.00	790822	1
Mercury	s	81-81	1(1)	NA	NA	0.01	0.01	810825	1
Mercury	w	79-81	2(1)	NA	NA	0.30	0.50	790822	1
Selenium	w	79-81	2(2)	NA	NA	1.00	1.00	810825	2
Silver	w	79-81	2(2)	NA	NA	1.50	2.00	790822	1
Zinc	s	79-81	2(0)	NA	NA	140.00	170.00	790822	1
Zinc	w	73-81	4(0)	NA	NA	45.00	70.00	731205	1
Cyanide	w	72-73	3(0)	NA	NA	0.01	0.02	730313	1
Phenols	w	61-73	7(0)	NA	NA	9.00	15.00	701008	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

Station 01603000 (cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	810825	1	1.00	1.00	0.00	NA	NA
Arsenic	w	810825	1	2.00	2.00	0.00	NA	858
Cadmium	s	810825	1	1.00	1.00	0.00	NA	NA
Cadmium	w	810825	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	810825	1	10.00	10.00	0.00	0.0572	NA
Chromium	s	810825	1	5.00	5.00	0.00	NA	NA
Copper	s	810825	1	63.00	63.00	0.00	NA	NA
Copper	w	810825	1	6.00	6.00	0.00	0.0046	NA
Lead	s	810825	1	50.00	50.00	0.00	NA	NA
Lead	w	810825	1	1.00	1.00	0.00	0.0204	NA
Mercury	s	810825	1	0.01	0.01	0.00	NA	NA
Mercury	w	810825	1	0.10	0.10	0.00	0.0014	NA
Selenium	w	810825	1	1.00	1.00	0.00	0.0095	NA
Silver	w	810825	1	1.00	1.00	0.00	0.0095	NA
Zinc	s	810825	1	110.00	110.00	0.00	NA	NA
Zinc	w	810825	1	50.00	50.00	0.00	0.0068	NA
Cyanide	w	731205	2	0.02	0.02	0.01	NA	NA
Phenols	w	731205	2	9.50	9.50	0.71	0.0027	NA

<u>River</u>	North Branch Potomac River	<u>Station</u> NBP0103
<u>R. Mile</u>	10.3	<u>Agency</u> 21MDOEP
<u>Location</u>	West of Moores Hollow Rd. & Route 51	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	79-84	6(1)	-0.01	0.400	0.08	0.15	841016	1
Cadmium	f	79-84	6(1)	-0.04	0.230	0.20	0.28	831101	1
Chromium	w	79-84	6(4)	0.05	0.310	0.41	0.50	841016	3
Copper	f	79-84	6(0)	0.11	0.400	1.30	2.00	811013	1
Lead	f	79-84	6(1)	-0.12	0.230	1.20	1.70	801015	1
Mercury	f	79-84	6(0)	-0.01	0.110	0.04	0.08	801015	1
Zinc	f	79-84	6(0)	0.67	0.500	18.00	25.00	811013	1
Alpha BHC	f	79-84	6(4)	0.01	0.500	0.00	0.18	841016	1
Gamma BHC(Lindane)	f	79-84	6(6)	0.00	0.360	0.00	0.00	801015	1
Chlordane	f	79-84	6(0)	0.00	0.160	0.03	0.13	841016	2
Dieldrin	f	79-84	6(3)	0.00	0.400	0.00	0.00	841016	2
Endrin	f	79-84	6(6)	0.00	0.500	0.00	0.00	841016	6
Heptachlor Epoxide	f	79-84	6(5)	0.00	0.140	0.00	0.00	841016	1
PCB's	f	79-84	6(0)	0.02	0.230	0.05	0.16	841016	1
P,P'DDD	f	79-84	6(2)	0.00	0.400	0.00	0.00	791029	1
P,P'DDE	f	79-84	6(0)	0.00	0.500	0.01	0.02	841016	2
P,P'DDT	f	79-84	6(5)	0.00	0.500	0.00	0.00	841016	6
Toxaphene	f	79-84	6(6)	0.00	0.500	0.01	0.01	841016	6

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

Station MBP0103 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	841016	2	0.11	0.11	0.06	NA	153
Cadmium	f	841016	2	0.19	0.19	0.13	0.0609	NA
Chromium	w	841016	2	0.50	0.50	0.00	0.0029	NA
Copper	f	841016	2	1.13	1.13	0.81	0.0028	NA
Lead	f	841016	2	1.25	1.25	0.49	0.0829	NA
Mercury	f	841016	2	0.03	0.03	0.02	0.0015	NA
Zinc	f	841016	2	14.35	14.35	6.58	0.0063	NA
Alpha BHC	f	841016	2	0.09	0.09	0.13	NA	92
Gamma BHC(Lindane)	f	841016	2	0.00	0.00	0.00	NA	NA
Chlordane	f	841016	2	0.08	0.08	0.07	0.1533	12
Dieldrin	f	841016	2	0.00	0.00	0.00	NA	6
Endrin	f	841016	2	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	841016	2	0.00	0.00	0.00	0.0039	NA
PCB's	f	841016	2	0.11	0.11	0.08	NA	42
P,P'DDD	f	841016	2	0.00	0.00	0.00	NA	NA
P,P'DDE	f	841016	2	0.01	0.01	0.01	NA	NA
P,P'DDT	f	841016	2	0.00	0.00	0.00	NA	NA
Toxaphene	f	841016	2	0.01	0.01	0.00	NA	1

<u>River</u>	Patterson Creek	<u>Station</u>	550806
<u>R. Mile</u>	292.50-5.00	<u>Agency</u>	WVDNR
<u>Location</u>	Route 28 Bridge in Ft. Ashby, Mineral Co., W.Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	76-78	10(8)	0.00	0.500	2.00	14.00	780730	2
Cadmium	w	76-78	10(8)	0.00	0.500	4.00	4.00	780730	10
Chromium	w	76-78	10(7)	-118.00	0.270	4.00	240.00	760504	1
Chromium+6	w	76-78	8(5)	NA	NA	1.00	8.00	770124	1
Copper	w	76-78	10(0)	-3.00	0.270	11.00	22.00	760803	1
Lead	w	76-78	8(5)	-10.00	0.270	20.00	100.00	761103	1
Mercury	w	76-78	9(9)	0.00	0.500	0.20	0.20	780502	9
Nickel	w	76-78	8(7)	NA	NA	40.00	40.00	780730	6
Selenium	w	76-78	10(7)	0.00	0.500	1.00	1.50	771101	2
Silver	w	76-78	10(5)	0.00	0.500	4.00	12.00	760803	1
Zinc	w	76-78	10(0)	-12.00	0.500	74.00	176.00	770124	1
Cyanide	w	76-78	7(1)	NA	NA	0.00	0.01	780502	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780730	5	2.00	4.40	5.37	NA	858
Cadmium	w	780730	5	4.00	4.00	0.00	0.3945	NA
Chromium	w	780730	5	4.00	4.80	1.79	0.0229	NA
Chromium+6	w	780730	5	1.00	1.00	0.00	0.0057	NA
Copper	w	780730	5	8.00	9.60	4.98	0.0062	NA
Lead	w	780730	4	20.00	25.00	10.00	0.4086	NA
Mercury	w	780502	5	0.20	0.20	0.00	0.0029	NA
Nickel	w	780730	5	40.00	40.00	0.00	0.1144	NA
Selenium	w	780730	5	1.00	1.10	0.22	0.0095	NA
Silver	w	780730	5	4.00	4.00	0.00	0.0381	NA
Zinc	w	780730	5	68.00	60.40	22.65	0.0093	NA
Cyanide	w	780502	4	0.00	0.00	0.00	0.0000	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	North Branch Potomac River	<u>Station</u>	NBP0085
<u>R. Mile</u>	8.50	<u>Agency</u>	MDOEP
<u>Location</u>	At Spring Gap		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740701	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740701	1	0.10	0.10	0.00	0.0099	NA
Chromium	w	740701	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740701	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740701	1	0.10	0.10	0.00	0.0020	NA
Mercury	w	740701	1	0.00	0.00	0.00	NA	NA

<u>River</u>	North Branch Potomac River	<u>Station</u>	NBP0023
<u>R. Mile</u>	2.3	<u>Agency</u>	21MDOEP
<u>Location</u>	Toll bridge at Oldtown		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770912	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770912	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770912	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770912	1	0.10	0.10	0.00	0.0001	NA

<u>River</u>	North Branch Potomac River	<u>Station</u>	NBP0004
<u>R. Mile</u>	.40	<u>Agency</u>	MDOEP
<u>Location</u>	0.4 mile above confluence, access on WV side.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Chromium	w	74-74	1(0)	NA	NA	0.10	0.10	740701	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740701	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

Station MBP0004 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740701	1	0.10	0.10	0.00	0.0099	NA
Chromium	w	740701	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740701	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740701	1	0.10	0.10	0.00	0.0020	NA
Mercury	w	740701	1	0.00	0.00	0.00	NA	NA

<u>River</u>	North Fork South Branch Potomac River	<u>Station</u> 01606000
<u>R. Mile</u>		<u>Agency</u> USGS
<u>Location</u>	Cabins, Grant Co., W.Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	79-79	1(0)	NA	NA	1.00	1.00	791003	1
Cadmium	s	79-79	1(1)	NA	NA	10.00	10.00	790910	1
Chromium	w	79-79	1(0)	NA	NA	20.00	20.00	791003	1
Chromium	s	79-79	1(1)	NA	NA	10.00	10.00	790910	1
Copper	s	79-79	1(1)	NA	NA	10.00	10.00	790910	1
Copper	w	79-79	1(0)	NA	NA	3.00	3.00	791003	1
Lead	s	79-79	1(1)	NA	NA	10.00	10.00	790910	1
Lead	w	79-79	1(0)	NA	NA	3.00	3.00	791003	1
Mercury	w	79-79	1(0)	NA	NA	0.40	0.40	791003	1
Zinc	s	79-79	1(0)	NA	NA	40.00	40.00	790910	1
Zinc	w	79-79	1(0)	NA	NA	10.00	10.00	791003	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	791003	1	1.00	1.00	0.00	NA	429
Cadmium	s	790910	1	10.00	10.00	0.00	NA	NA
Chromium	w	791003	1	20.00	20.00	0.00	0.1144	NA
Chromium	s	790910	1	10.00	10.00	0.00	NA	NA
Copper	s	790910	1	10.00	10.00	0.00	NA	NA
Copper	w	791003	1	3.00	3.00	0.00	0.0023	NA
Lead	s	790910	1	10.00	10.00	0.00	NA	NA
Lead	w	791003	1	3.00	3.00	0.00	0.0613	NA
Mercury	w	791003	1	0.40	0.40	0.00	0.0057	NA
Zinc	s	790910	1	40.00	40.00	0.00	NA	NA
Zinc	w	791003	1	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	North Fork South Branch Potomac River	<u>Station</u> 550470
<u>R. Mile</u>	283.40-73.20-30.70	<u>Agency</u> WVDNR
<u>Location</u>	U.S. 33 Highway Bridge at Judy Gap, Pendleton Co., W.Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Antimony	w	76-78	10(6)	0.00	0.500	40.00	40.00	780726	10
Arsenic	w	71-78	20(16)	0.00	0.280	2.00	10.00	710420	1
Cadmium	w	71-78	64(51)	-0.14	0.090	2.50	20.00	740709	1
Chromium	w	74-78	25(22)	-3.00	0.010	4.00	20.00	750401	5
Chromium+6	w	68-78	68(39)	0.00	0.130	1.00	10.00	700602	1
Copper	w	71-78	26(7)	-1.80	0.040	7.00	50.00	740107	1
Lead	w	71-78	41(32)	-1.69	0.000	20.00	50.00	731113	2
Mercury	w	70-78	38(31)	0.00	0.020	0.20	1.00	700901	1
Nickel	w	74-78	17(14)	-9.00	0.070	10.00	40.00	760106	5
Selenium	w	75-78	13(8)	0.00	0.100	1.00	2.00	760106	2
Silver	w	71-78	32(30)	0.00	0.070	2.00	10.00	720927	4
Zinc	w	72-78	31(3)	0.00	0.450	16.00	1360.00	750708	1
Cyanide	w	74-78	16(7)	0.00	0.500	0.00	0.00	780726	16

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Antimony	w	780726	5	40.00	40.00	0.00	2.8600	NA
Arsenic	w	780411	5	2.00	2.20	0.45	NA	858
Cadmium	w	780726	5	1.00	3.00	3.94	0.0986	NA
Chromium	w	780726	5	4.00	4.00	0.00	0.0229	NA
Chromium+6	w	780726	5	2.00	1.60	0.55	0.0114	NA
Copper	w	780726	5	3.00	3.80	2.77	0.0023	NA
Lead	w	780726	5	20.00	20.00	0.00	0.4086	NA
Mercury	w	780411	5	0.10	0.14	0.09	0.0014	NA
Nickel	w	780726	5	10.00	12.80	4.38	0.0286	NA
Selenium	w	780411	5	1.00	1.00	0.00	0.0095	NA
Silver	w	780726	5	2.00	2.00	0.00	0.0191	NA
Zinc	w	780726	5	18.00	28.40	25.98	0.0025	NA
Cyanide	w	780726	5	0.00	0.00	0.00	0.0000	NA

<u>River</u>	South Branch Potomac River	<u>Station</u> 550469
<u>R. Mile</u>	283.40-107.00	<u>Agency</u> WVDNR
<u>Location</u>	U.S. Route 33 Highway Bridge, Pendleton Co., W.Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Antimony	w	76-84	21(12)	0.00	0.030	40.00	160.00	820413	1
Arsenic	w	71-84	39(29)	0.00	0.130	2.00	30.00	841017	5
Cadmium	w	71-84	65(47)	0.00	0.020	4.00	20.00	740709	1
Chromium	w	74-84	37(31)	0.00	0.050	4.00	50.00	750218	1
Chromium+6	w	68-84	89(51)	0.00	0.350	1.00	10.00	690908	1
Copper	w	71-84	50(13)	-0.40	0.060	5.50	50.00	740107	1
Lead	w	71-84	66(57)	0.00	0.010	25.00	320.00	710608	1
Mercury	w	70-84	50(41)	0.00	0.080	0.20	1.00	700901	1
Nickel	w	74-84	30(25)	0.00	0.010	30.00	40.00	841017	15
Selenium	w	75-84	26(19)	0.00	0.170	1.00	5.00	770105	1
Silver	w	71-84	44(41)	0.00	0.110	4.00	180.00	780411	1
Zinc	w	72-84	43(5)	0.50	0.210	18.00	98.00	751124	1
Cyanide	w	74-84	38(18)	0.00	0.190	0.00	0.00	841017	5
Phenols	w	82-84	10(5)	0.00	0.270	1.00	3.00	840125	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

Station 550469 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Antimony	w	840425	2	80.00	80.00	56.57	5.7200	NA
Arsenic	w	841017	4	30.00	30.00	0.00	NA	12870
Cadmium	w	841017	5	4.00	4.00	0.00	0.3945	NA
Chromium	w	841017	3	6.00	6.00	2.00	0.0343	NA
Chromium+6	w	841017	5	1.00	1.40	0.89	0.0057	NA
Copper	w	841017	5	4.00	4.00	0.00	0.0031	NA
Lead	w	841017	5	40.00	40.00	0.00	0.8171	NA
Mercury	w	841017	3	0.20	0.14	0.10	0.0029	NA
Nickel	w	841017	3	40.00	40.00	0.00	0.1144	NA
Selenium	w	841017	2	1.50	1.50	0.71	0.0143	NA
Silver	w	841017	3	4.00	4.00	0.00	0.0381	NA
Zinc	w	841017	3	18.00	20.00	3.46	0.0025	NA
Cyanide	w	841017	3	0.00	0.00	0.00	0.0000	NA
Phenols	w	841017	5	1.00	1.60	0.89	0.0003	NA

<u>River</u>	South Branch Potomac River	<u>Station</u>	550843
<u>R. Mile</u>	283.40-56.00	<u>Agency</u>	WVDNR
<u>Location</u>	U.S. Rt. 220 Highway Bridge, Hardy Co., W.Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Antimony	w	79-83	9(4)	-5.00	0.120	40.00	120.00	790904	1
Arsenic	w	78-84	19(14)	0.00	0.030	2.00	30.00	840919	1
Cadmium	f	83-84	4(2)	NA	NA	0.05	0.05	841018	2
Cadmium	w	78-84	74(71)	0.00	0.230	4.00	10.00	831012	1
Chromium	w	78-84	20(13)	0.00	0.030	4.00	6.00	800917	3
Chromium+6	w	78-84	70(36)	0.00	0.020	1.00	8.00	840625	1
Chromium	f	83-84	4(0)	NA	NA	0.60	1.10	841018	1
Copper	f	83-84	4(0)	NA	NA	0.93	1.10	841018	1
Copper	w	78-84	26(11)	-0.50	0.030	5.00	32.00	830921	1
Lead	f	83-84	4(0)	NA	NA	2.30	4.00	830914	1
Lead	w	78-84	74(60)	4.00	0.000	20.00	40.00	841017	31
Mercury	f	83-83	2(0)	NA	NA	0.06	0.10	830914	1
Mercury	w	78-84	16(16)	0.00	0.500	0.20	0.20	840919	16
Nickel	w	78-84	15(13)	0.00	0.150	40.00	120.00	810310	1
Selenium	w	78-84	13(13)	0.00	0.500	1.00	1.00	840919	13
Silver	w	78-84	15(13)	0.00	0.500	4.00	4.00	840919	15
Zinc	f	83-84	4(0)	NA	NA	18.25	19.40	830914	1
Zinc	w	78-84	20(0)	-4.85	0.040	29.00	132.00	780801	1
Aldrin	f	83-83	1(1)	NA	NA	0.01	0.01	830914	1
Alpha BHC	f	83-84	2(1)	NA	NA	0.06	0.10	830914	1
Cyanide	w	78-83	23(8)	0.00	0.190	0.00	0.01	791106	1
Heptachlor Epoxida	f	83-84	3(0)	NA	NA	0.03	0.04	841018	1
Heptachlor	f	83-83	1(0)	NA	NA	0.04	0.04	830914	1
PCB1260	f	83-84	3(0)	NA	NA	0.19	1.02	841018	1
P,P'DDD	f	83-83	1(0)	NA	NA	0.01	0.01	830914	1
P,P'DDE	f	84-84	1(0)	NA	NA	0.04	0.04	841018	1
Phenols	w	82-84	18(15)	NA	NA	1.00	5.00	840125	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

Station 550843 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Antimony	w	830921	2	40.00	40.00	0.00	2.8600	NA
Arsenic	w	840919	1	30.00	30.00	0.00	NA	12870
Cadmium	f	841018	2	0.04	0.04	0.02	0.0112	NA
Cadmium	w	841017	6	4.00	4.00	0.00	0.3945	NA
Chromium	w	840919	2	4.00	4.00	0.00	0.0229	NA
Chromium+6	w	841017	9	1.00	2.56	2.65	0.0057	NA
Chromium	f	841018	2	0.90	0.90	0.28	NA	NA
Copper	f	841018	2	0.88	0.88	0.30	0.0022	NA
Copper	w	840919	3	4.00	13.33	16.17	0.0031	NA
Lead	f	841018	2	1.30	1.30	0.42	0.0863	NA
Lead	w	841017	6	40.00	40.00	0.00	0.8171	NA
Mercury	f	830914	2	0.06	0.06	0.06	0.0026	NA
Mercury	w	840919	2	0.20	0.20	0.00	0.0029	NA
Nickel	w	840919	2	40.00	40.00	0.00	0.1144	NA
Selenium	w	840919	1	1.00	1.00	0.00	0.0095	NA
Silver	w	840919	2	4.00	4.00	0.00	0.0381	NA
Zinc	f	841018	2	14.70	14.70	4.10	0.0065	NA
Zinc	w	840919	2	37.00	37.00	16.97	0.0050	NA
Aldrin	f	830914	1	0.01	0.01	0.00	0.0310	11
Alpha BHC	f	841018	1	0.01	0.01	0.00	NA	11
Cyanide	w	831116	4	0.00	0.00	0.00	0.0000	NA
Heptachlor Epoxide	f	841018	1	0.04	0.04	0.00	0.1208	9
Heptachlor	f	830914	1	0.04	0.04	0.00	NA	11
PCB1260	f	841018	1	1.02	1.02	0.00	NA	411
P,P'DDD	f	830914	1	0.01	0.01	0.00	NA	NA
P,P'DDE	f	841018	1	0.04	0.04	0.00	NA	NA
Phenols	w	841017	7	1.00	1.86	1.46	0.0003	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	South Branch Potomac River	<u>Station</u>	550468
<u>R. Mile</u>	283.40-13.40	<u>Agency</u>	WVDNR
<u>Location</u>	County Route 3 Highway Bridge, Hampshire Co., W.Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Antimony	w	79-84	10(5)	-9.00	0.060	40.00	160.00	790904	1
Arsenic	w	71-84	36(29)	0.00	0.010	2.00	30.00	840919	3
Cadmium	f	78-83	6(1)	NA	NA	0.15	0.20	811007	1
Cadmium	w	71-84	136(125)	0.00	0.000	4.00	20.00	740611	1
Chromium	w	74-84	61(46)	-0.14	0.000	4.00	20.00	750415	8
Chromium+6	w	68-84	149(87)	0.00	0.140	1.00	34.00	690603	1
Chromium	f	78-83	6(0)	NA	NA	1.04	1.50	781017	1
Copper	f	78-83	6(0)	NA	NA	0.72	1.30	811007	1
Copper	w	71-84	61(14)	0.00	0.100	8.00	76.00	760504	1
Lead	f	78-83	6(0)	NA	NA	2.45	3.60	811007	1
Lead	w	71-84	136(107)	0.00	0.080	30.00	520.00	810915	1
Mercury	f	78-83	6(0)	NA	NA	0.20	0.29	811007	1
Mercury	w	70-84	71(66)	0.00	0.010	0.20	6.20	770907	1
Nickel	w	74-84	26(23)	0.00	0.240	40.00	40.00	840919	22
Selenium	w	75-84	24(22)	0.00	0.140	1.00	2.00	840919	1
Silver	w	71-84	47(35)	0.00	0.090	4.00	40.00	760803	1
Zinc	f	83-83	2(0)	NA	NA	15.05	18.20	830913	1
Zinc	w	72-84	65(3)	-1.00	0.300	36.00	340.00	750617	1
Aldrin	f	81-83	2(2)	NA	NA	0.01	0.01	830913	2
Alpha BHC	f	78-83	6(6)	NA	NA	0.01	0.10	830913	2
Cyanide	w	74-84	41(19)	0.00	0.340	0.00	0.00	810512	4
Dieldrin	f	81-81	2(2)	NA	NA	0.01	0.01	811007	2
Endrin	f	81-83	2(2)	NA	NA	0.01	0.01	830913	2
Heptachlor Epoxide	f	81-83	4(3)	NA	NA	0.01	0.01	830913	3
PCB1260	f	78-83	6(5)	NA	NA	0.01	0.22	830913	1
P,P'DDD	f	78-83	4(2)	NA	NA	0.01	0.23	811007	1
P,P'DDE	f	78-83	6(2)	NA	NA	0.07	0.24	830913	1
Phenols	w	82-84	22(17)	1.50	0.210	1.00	82.00	841128	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Antimony	w	840321	2	40.00	40.00	0.00	2.8600	NA
Arsenic	w	840919	3	30.00	30.00	0.00	NA	12870
Cadmium	f	830913	2	0.05	0.05	0.00	0.0160	NA
Cadmium	w	841017	12	4.00	4.00	0.00	0.3945	NA
Chromium	w	840919	3	4.00	5.33	2.31	0.0229	NA
Chromium+6	w	841017	9	1.00	3.56	4.72	0.0057	NA
Chromium	f	830913	2	0.49	0.49	0.01	NA	NA
Copper	f	830913	2	0.72	0.72	0.10	0.0018	NA
Copper	w	840919	5	6.00	6.60	3.29	0.0046	NA
Lead	f	830913	2	2.80	2.80	0.42	0.1858	NA
Lead	w	841017	12	40.00	40.00	0.00	0.8171	NA
Mercury	f	830913	2	0.17	0.17	0.12	0.0077	NA
Mercury	w	840919	3	0.20	0.20	0.00	0.0029	NA
Nickel	w	840919	3	40.00	40.00	0.00	0.1144	NA
Selenium	w	840919	2	1.50	1.50	0.71	0.0143	NA
Silver	w	840919	3	4.00	4.00	0.00	0.0381	NA
Zinc	f	830913	2	15.05	15.05	4.45	0.0067	NA
Zinc	w	840919	3	37.00	31.67	11.02	0.0050	NA
Aldrin	f	830913	1	0.01	0.01	0.00	0.0310	11
Alpha BHC	f	830913	2	0.10	0.10	0.00	NA	102
Cyanide	w	840523	4	0.00	0.00	0.00	0.0000	NA
Dieldrin	f	811007	2	0.01	0.01	0.00	NA	28
Endrin	f	830913	1	0.01	0.01	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

Station 550468 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Heptachlor Epoxide	f	830913	2	0.01	0.01	0.00	0.0310	2
PCB1260	f	830913	2	0.11	0.11	0.15	NA	46
P,P'DDD	f	830913	1	0.02	0.02	0.00	NA	NA
P,P'DDE	f	830913	2	0.16	0.16	0.11	NA	NA
Phenols	w	841128	8	1.50	11.63	28.45	0.0004	NA

<u>River</u>	South Branch Potomac River	<u>Station</u>	SOU0004
<u>R. Mile</u>	.40	<u>Agency</u>	MDOEP
<u>Location</u>	0.4 miles from mouth of Stickley Road		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Chromium	w	74-77	2(2)	NA	NA	0.10	0.10	770912	2
Copper	w	74-77	2(2)	NA	NA	0.10	0.10	770912	2
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740701	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740701	1	0.10	0.10	0.00	0.0099	NA
Chromium	w	770912	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770912	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740701	1	0.10	0.10	0.00	0.0020	NA
Mercury	w	740701	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	Town Creek	<u>Station</u>	TOW0030
<u>R. Mile</u>	3.0	<u>Agency</u>	21MDOEP
<u>Location</u>	Near bridge on Oldtown Road		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	79-79	4(4)	NA	NA	0.05	0.05	791029	4
Cadmium	f	79-79	4(0)	NA	NA	0.15	0.21	791029	1
Cadmium	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Chromium	w	74-79	5(1)	NA	NA	0.19	0.26	791029	2
Copper	f	79-79	4(0)	NA	NA	0.60	0.88	791029	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Lead	f	79-79	4(0)	NA	NA	1.20	1.40	791029	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Mercury	f	79-79	4(0)	NA	NA	0.07	0.11	791029	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740701	1
Zinc	f	79-79	4(0)	NA	NA	12.00	15.00	791029	1
Alpha BHC	f	79-79	4(3)	NA	NA	0.00	0.00	791029	1
Gamma BHC(Lindane)	f	79-79	4(4)	NA	NA	0.00	0.00	791029	4
Chlordane	f	79-79	4(1)	NA	NA	0.01	0.05	791029	1
Dieldrin	f	79-79	4(1)	NA	NA	0.00	0.00	791029	2
Endrin	f	79-79	4(4)	NA	NA	0.00	0.00	791029	4
Heptachlor Epoxide	f	79-79	4(4)	NA	NA	0.00	0.00	791029	4
PCB's	f	79-79	4(0)	NA	NA	0.03	0.10	791029	1
P,P'DDD	f	79-79	4(2)	NA	NA	0.00	0.01	791029	1
P,P'DDE	f	79-79	4(0)	NA	NA	0.01	0.01	791029	2
P,P'DDT	f	79-79	4(3)	NA	NA	0.00	0.00	791029	1
Toxaphene	f	79-79	4(4)	NA	NA	0.01	0.01	791029	4

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	791029	4	0.05	0.05	0.00	NA	70
Cadmium	f	791029	4	0.15	0.15	0.05	0.0464	NA
Cadmium	w	740701	1	0.10	0.10	0.00	0.0099	NA
Chromium	w	791029	4	0.23	0.21	0.07	0.0013	NA
Copper	f	791029	4	0.60	0.63	0.19	0.0015	NA
Copper	w	740701	1	0.10	0.10	0.00	0.0001	NA
Lead	f	791029	4	1.20	1.18	0.22	0.0796	NA
Lead	w	740701	1	0.10	0.10	0.00	0.0020	NA
Mercury	f	791029	4	0.07	0.07	0.03	0.0031	NA
Mercury	w	740701	1	0.00	0.00	0.00	NA	NA
Zinc	f	791029	4	12.00	12.75	1.50	0.0053	NA
Alpha BHC	f	791029	4	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	791029	4	0.00	0.00	0.00	NA	NA
Chlordane	f	791029	4	0.01	0.02	0.02	0.0102	1
Dieldrin	f	791029	4	0.00	0.00	0.00	NA	6
Endrin	f	791029	4	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	791029	4	0.00	0.00	0.00	0.0015	NA
PCB's	f	791029	4	0.03	0.04	0.04	NA	10
P,P'DDD	f	791029	4	0.00	0.00	0.00	NA	NA
P,P'DDE	f	791029	4	0.01	0.01	0.00	NA	NA
P,P'DDT	f	791029	4	0.00	0.00	0.00	NA	NA
Toxaphene	f	791029	4	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	Town Creek	<u>Station</u>	TOW0013
<u>R. Mile</u>	1.30	<u>Agency</u>	MDOEP
<u>Location</u>	Town Cr. where X'd by MD 51 near Cardinal Club in Town Cr.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	80-84	10(5)	0.00	0.500	0.05	0.17	831101	1
Cadmium	f	80-85	12(1)	0.04	0.230	0.21	0.85	851007	1
Chromium	w	80-85	12(6)	0.12	0.160	0.55	1.30	821018	1
Copper	f	80-85	12(0)	0.22	0.110	0.98	1.90	851007	1
Lead	f	80-85	12(3)	0.19	0.230	1.95	3.10	841016	1
Mercury	f	80-85	12(0)	-0.03	0.110	0.06	0.20	811013	1
Zinc	f	80-85	12(0)	0.33	0.500	23.00	41.00	841016	1
Alpha BHC	f	80-85	12(8)	0.00	0.290	0.00	0.03	841016	1
Gamma BHC(Lindane)	f	80-85	12(10)	0.00	0.290	0.00	0.02	821018	1
Chlordane	f	80-85	12(0)	0.01	0.290	0.01	0.12	841016	1
Dieldrin	f	80-85	12(5)	0.00	0.400	0.00	0.01	811013	1
Endrin	f	80-85	12(12)	0.00	0.500	0.00	0.00	851007	12
Heptachlor Epoxida	f	80-85	12(7)	0.00	0.130	0.00	0.00	831101	1
Hexachlorobenzene	f	85-85	1(1)	NA	NA	0.00	0.00	851007	1
PCB-1242	f	85-85	1(1)	NA	NA	0.01	0.01	851007	1
PCB-1254	f	85-85	1(0)	NA	NA	0.01	0.01	851007	1
PCB1260	f	85-85	1(0)	NA	NA	0.02	0.02	851007	1
PCB's	f	80-85	12(3)	0.00	0.400	0.02	0.08	811013	1
P,P'DDD	f	80-85	12(7)	0.00	0.160	0.00	0.01	831101	1
P,P'DDE	f	80-85	12(0)	0.00	0.500	0.01	0.04	841016	1
P,P'DDT	f	80-85	12(12)	0.00	0.500	0.00	0.00	851007	12
Toxaphene	f	80-85	12(12)	0.00	0.500	0.01	0.01	851007	12

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	841016	3	0.06	0.09	0.07	NA	84
Cadmium	f	851007	4	0.26	0.39	0.31	0.0833	NA
Chromium	w	851007	4	0.80	0.80	0.16	0.0046	NA
Copper	f	851007	4	1.14	1.28	0.44	0.0028	NA
Lead	f	851007	4	2.60	2.45	0.68	0.1725	NA
Mercury	f	851007	4	0.05	0.06	0.04	0.0022	NA
Zinc	f	851007	4	22.50	25.50	10.97	0.0100	NA
Alpha BHC	f	851007	4	0.00	0.01	0.01	NA	1
Gamma BHC(Lindane)	f	851007	4	0.00	0.00	0.00	NA	NA
Chlordane	f	851007	4	0.08	0.07	0.05	0.1496	12
Dieldrin	f	851007	4	0.00	0.00	0.00	NA	3
Endrin	f	851007	4	0.00	0.00	0.00	NA	NA
Heptachlor Epoxida	f	851007	4	0.00	0.00	0.00	0.0031	NA
Hexachlorobenzene	f	851007	1	0.00	0.00	0.00	NA	NA
PCB-1242	f	851007	1	0.01	0.01	0.00	NA	4
PCB-1254	f	851007	1	0.01	0.01	0.00	NA	4
PCB1260	f	851007	1	0.02	0.02	0.00	NA	8
PCB's	f	851007	4	0.01	0.02	0.01	NA	4
P,P'DDD	f	851007	4	0.00	0.00	0.00	NA	NA
P,P'DDE	f	851007	4	0.02	0.02	0.01	NA	NA
P,P'DDT	f	851007	4	0.00	0.00	0.00	NA	NA
Toxaphene	f	851007	4	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	Potomac River	<u>Station</u>	POT2822
<u>R. Mile</u>	282.20	<u>Agency</u>	MDOEP
<u>Location</u>	One mile downstream of Town Creek		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740701	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740701	1	0.10	0.10	0.00	0.0099	NA
Chromium	w	740701	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740701	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740701	1	0.10	0.10	0.00	0.0020	NA
Mercury	w	740701	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Little Cacapon River	<u>Station</u>	550805
<u>R. Mile</u>	278.00-3.40	<u>Agency</u>	WVDNR
<u>Location</u>	Route 2 Highway Bridge, Hampshire Co., W.Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	76-78	10(7)	12.50	0.150	2.00	27.00	780502	1
Cadmium	w	76-78	10(10)	0.00	0.500	4.00	4.00	780730	10
Chromium	w	76-78	10(8)	0.00	0.500	4.00	8.00	771101	1
Chromium+6	w	76-78	8(7)	NA	NA	1.00	3.00	761103	1
Copper	w	76-78	10(0)	0.00	0.500	12.00	88.00	770124	1
Lead	w	76-78	9(6)	-10.00	0.270	20.00	100.00	761103	2
Mercury	w	76-78	9(9)	0.00	0.500	0.20	0.20	780502	9
Nickel	w	76-78	8(7)	NA	NA	40.00	40.00	780730	7
Selenium	w	76-78	10(9)	0.00	0.500	1.00	1.50	761103	1
Silver	w	76-78	10(3)	0.00	0.500	4.00	10.00	761103	1
Zinc	w	76-78	10(0)	7.00	0.500	58.00	190.00	770124	1
Cyanide	w	76-78	7(2)	NA	NA	0.00	0.00	780502	3

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780730	5	2.00	7.00	11.18	NA	858
Cadmium	w	780730	5	4.00	4.00	0.00	0.3945	NA
Chromium	w	780730	5	4.00	4.80	1.79	0.0229	NA
Chromium+6	w	780730	5	1.00	1.00	0.00	0.0057	NA
Copper	w	780730	5	12.00	11.60	5.37	0.0093	NA
Lead	w	780730	4	20.00	25.00	10.00	0.4086	NA
Mercury	w	780502	5	0.20	0.20	0.00	0.0029	NA
Nickel	w	780730	5	40.00	40.00	0.00	0.1144	NA
Selenium	w	780730	5	1.00	1.00	0.00	0.0095	NA
Silver	w	780730	5	4.00	4.40	0.89	0.0381	NA
Zinc	w	780730	5	68.00	72.80	34.57	0.0093	NA
Cyanide	w	780502	4	0.00	0.00	0.00	0.0000	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	Potomac River	<u>Station</u>	POT2776
<u>R. Mile</u>	277.60	<u>Agency</u>	MDOEP
<u>Location</u>	0.3 mi u/s confl. w/Purslane Run, via WV side, Paw Paw		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740701	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740701	1	0.10	0.10	0.00	0.0099	NA
Chromium	w	740701	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740701	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740701	1	0.10	0.10	0.00	0.0020	NA
Mercury	w	740701	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Potomac River	<u>Station</u>	POT2766
<u>R. Mile</u>	276.6	<u>Agency</u>	21MDOEP
<u>Location</u>	Bridge Rt. 51 near Paw Paw, WV		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	84-84	1(0)	NA	NA	0.20	0.20	841017	1
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770912	1
Copper	w	77-77	1(1)	NA	NA	0.10	0.10	770912	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	841017	1	0.20	0.20	0.00	0.0197	NA
Chromium	w	770912	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770912	1	0.10	0.10	0.00	0.0001	NA

<u>River</u>	Potomac River	<u>Station</u>	POT2753
<u>R. Mile</u>	275.30	<u>Agency</u>	MDOEP
<u>Location</u>	RR Bridge off of MD 51, 0.5 mile North of Paw Paw		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Copper	w	74-74	1(0)	NA	NA	0.20	0.20	740701	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740701	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

Station POT2753 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740701	1	0.10	0.10	0.00	0.0099	NA
Chromium	w	740701	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740701	1	0.20	0.20	0.00	0.0002	NA
Lead	w	740701	1	0.10	0.10	0.00	0.0020	NA
Mercury	w	740701	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Potomac River	<u>Station</u>	550461
<u>R. Mile</u>	276.60	<u>Agency</u>	WVDNR
<u>Location</u>	Potomac River at Paw Paw, Morgan Co., W.Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Antimony	w	83-83	1(1)	NA	NA	40.00	40.00	831019	1
Arsenic	w	71-83	5(2)	NA	NA	4.00	10.00	710419	1
Cadmium	w	71-83	18(17)	0.25	0.500	2.50	20.00	740611	1
Chromium	w	74-83	2(0)	NA	NA	50.00	80.00	831019	1
Chromium+6	w	68-74	46(22)	-0.50	0.000	1.00	8.00	700601	1
Copper	w	71-83	7(3)	-8.50	0.500	10.00	80.00	740122	1
Lead	w	71-83	26(20)	-0.83	0.300	30.00	60.00	731204	2
Mercury	w	70-83	17(14)	-0.01	0.500	0.20	1.00	700831	1
Nickel	w	74-83	2(2)	NA	NA	15.00	20.00	740715	1
Selenium	w	83-83	1(1)	NA	NA	1.00	1.00	831019	1
Silver	w	71-83	17(16)	0.00	0.500	2.00	10.00	720829	4
Zinc	w	72-83	7(3)	32.00	0.500	12.00	94.00	740122	1
Cyanide	w	74-83	2(0)	NA	NA	0.00	0.00	831019	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Antimony	w	831019	1	40.00	40.00	0.00	2.8600	NA
Arsenic	w	831019	1	1.00	1.00	0.00	NA	429
Cadmium	w	831019	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	831019	1	80.00	80.00	0.00	0.4576	NA
Chromium+6	w	740715	9	1.00	1.00	0.00	0.0057	NA
Copper	w	831019	1	6.00	6.00	0.00	0.0046	NA
Lead	w	831019	1	20.00	20.00	0.00	0.4086	NA
Mercury	w	831019	1	0.30	0.30	0.00	0.0043	NA
Nickel	w	831019	1	10.00	10.00	0.00	0.0286	NA
Selenium	w	831019	1	1.00	1.00	0.00	0.0095	NA
Silver	w	831019	1	2.00	2.00	0.00	0.0191	NA
Zinc	w	831019	1	12.00	12.00	0.00	0.0016	NA
Cyanide	w	831019	1	0.00	0.00	0.00	0.0000	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	Cacapon River	<u>Station</u>	550804
<u>R. Mile</u>	246.20-11.70	<u>Agency</u>	WVDNR
<u>Location</u>	County Route 7 Highway Bridge, Mergan Co., W.va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Antimony	w	79-84	11(4)	6.67	0.420	100.00	360.00	810407	1
Arsenic	w	76-84	26(20)	0.00	0.030	2.00	30.00	841002	3
Cadmium	w	76-84	35(32)	0.00	0.500	4.00	6.00	831005	1
Chromium	w	76-84	24(17)	0.00	0.500	4.00	54.00	821005	1
Chromium+6	w	76-84	31(22)	0.00	0.500	1.00	6.00	791119	1
Copper	w	76-84	35(9)	0.00	0.020	8.00	80.00	760803	1
Lead	w	76-84	33(26)	0.00	0.130	30.00	100.00	761103	2
Mercury	w	76-84	23(21)	0.00	0.360	0.20	0.30	811006	1
Nickel	w	76-84	22(19)	0.00	0.190	40.00	540.00	780207	1
Selenium	w	76-84	25(20)	0.00	0.500	1.00	2.00	810407	1
Silver	w	76-84	24(17)	0.00	0.080	4.00	10.00	770504	2
Zinc	w	76-84	23(0)	-0.92	0.320	31.00	174.00	770504	1
Cyanide	w	76-84	30(12)	0.00	0.140	0.00	0.01	780502	1
Phenols	w	82-84	8(5)	0.50	0.270	1.00	2.00	841002	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Antimony	w	840403	3	80.00	106.67	83.27	5.7200	NA
Arsenic	w	841002	2	30.00	30.00	0.00	NA	12870
Cadmium	w	841002	4	4.00	4.50	1.00	0.3945	NA
Chromium	w	841002	3	4.00	4.00	0.00	0.0229	NA
Chromium+6	w	841002	3	1.00	1.00	0.00	0.0057	NA
Copper	w	841002	4	4.00	5.50	3.00	0.0031	NA
Lead	w	841002	3	40.00	40.00	0.00	0.8171	NA
Mercury	w	841002	3	0.20	0.20	0.00	0.0029	NA
Nickel	w	841002	3	40.00	40.00	0.00	0.1144	NA
Selenium	w	841002	2	1.00	1.00	0.00	0.0095	NA
Silver	w	841002	3	4.00	4.00	0.00	0.0381	NA
Zinc	w	841002	2	20.00	20.00	2.83	0.0027	NA
Cyanide	w	841002	4	0.00	0.00	0.00	0.0000	NA
Phenols	w	841002	4	1.00	1.25	0.50	0.0003	NA

<u>River</u>	Cacapon River	<u>Station</u>	CAP0005
<u>R. Mile</u>	.50	<u>Agency</u>	MDOEP
<u>Location</u>	W.VA Route 9 Bridge at Great Cacapon		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740701	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740701	1	0.10	0.10	0.00	0.0099	NA
Chromium	w	740701	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740701	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740701	1	0.10	0.10	0.00	0.0020	NA
Mercury	w	740701	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	Potomac River	<u>Station</u>	POT2386
<u>R. Mile</u>	238.6	<u>Agency</u>	21MDOEP
<u>Location</u>	Below bridge on US Rt. 522 in Hancock		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	79-84	14(4)	0.02	0.010	0.08	0.18	831026	1
Cadmium	f	79-84	14(0)	0.10	0.110	0.21	0.48	831026	2
Chromium	w	79-84	14(6)	0.10	0.220	0.50	0.90	831026	2
Copper	f	79-84	14(0)	0.27	0.040	0.54	7.50	841025	1
Lead	f	79-84	14(2)	0.36	0.110	1.35	2.90	821028	1
Mercury	f	79-84	14(0)	-0.01	0.400	0.06	0.13	811014	1
Zinc	f	79-84	14(0)	0.16	0.500	11.50	23.00	811014	1
Alpha BHC	f	79-84	14(12)	0.00	0.500	0.00	0.00	791204	2
Gamma BHC(Lindane)	f	79-84	14(14)	0.00	0.130	0.00	0.00	821028	3
Chlordane	f	79-84	14(0)	0.02	0.230	0.03	0.09	841025	1
Dieldrin	f	79-84	14(4)	0.00	0.500	0.00	0.01	811014	1
Endrin	f	79-84	14(14)	0.00	0.500	0.00	0.00	791204	1
Heptachlor Epoxide	f	79-84	14(13)	0.00	0.130	0.00	0.00	841025	1
PCB's	f	79-84	14(0)	0.00	0.500	0.05	0.24	811014	1
P,P'DDD	f	79-84	14(5)	0.00	0.400	0.00	0.02	801008	1
P,P'DDE	f	79-84	14(0)	0.01	0.110	0.01	0.05	831026	1
P,P'DDT	f	79-84	14(12)	0.00	0.140	0.00	0.01	801008	1
Toxaphene	f	79-84	14(14)	0.00	0.500	0.01	0.01	841025	14

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	841025	3	0.15	0.14	0.05	NA	209
Cadmium	f	841025	3	0.46	0.41	0.11	0.1474	NA
Chromium	w	841025	3	0.50	0.63	0.23	0.0029	NA
Copper	f	841025	3	0.69	2.95	3.94	0.0017	NA
Lead	f	841025	3	2.00	1.90	0.26	0.1327	NA
Mercury	f	841025	3	0.07	0.06	0.03	0.0034	NA
Zinc	f	841025	3	13.00	12.23	5.19	0.0058	NA
Alpha BHC	f	841025	3	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	841025	3	0.00	0.00	0.00	NA	NA
Chlordane	f	841025	3	0.07	0.07	0.02	0.1301	10
Dieldrin	f	841025	3	0.00	0.00	0.00	NA	1
Endrin	f	841025	3	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	841025	3	0.00	0.00	0.00	0.0015	NA
PCB's	f	841025	3	0.05	0.05	0.02	NA	20
P,P'DDD	f	841025	3	0.01	0.01	0.00	NA	NA
P,P'DDE	f	841025	3	0.03	0.03	0.02	NA	NA
P,P'DDT	f	841025	3	0.00	0.00	0.00	NA	NA
Toxaphene	f	841025	3	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	Potomac River	<u>Station</u>	01613000
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Near Route 522 Bridge, Hancock, Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	72-76	2(0)	NA	NA	10.50	20.00	720518	1
Arsenic	w	76-76	1(1)	NA	NA	1.00	1.00	760831	1
Cadmium	s	72-72	1(0)	NA	NA	0.55	0.55	720518	1
Chromium	w	76-76	1(1)	NA	NA	20.00	20.00	760831	1
Chromium	s	72-76	2(0)	NA	NA	9.00	10.00	760831	1
Copper	s	72-76	2(0)	NA	NA	13.50	17.00	720518	1
Lead	s	72-76	2(0)	NA	NA	20.00	20.00	760831	2
Lead	w	76-76	1(1)	NA	NA	2.00	2.00	760831	1
Mercury	s	72-76	2(0)	NA	NA	0.16	0.20	760831	1
Mercury	w	76-76	1(1)	NA	NA	0.50	0.50	760831	1
Nickel	s	72-76	2(0)	NA	NA	19.50	20.00	760831	1
Selenium	w	76-76	1(1)	NA	NA	1.00	1.00	760831	1
Zinc	s	72-76	2(0)	NA	NA	34.00	60.00	760831	1
Zinc	w	76-76	1(1)	NA	NA	20.00	20.00	760831	1
Chlordane_dwt	s	72-76	2(0)	NA	NA	15.00	20.00	760831	1
Dieldrin	s	72-76	2(0)	NA	NA	1.30	2.20	720518	1
Endrin	s	72-76	2(0)	NA	NA	2.60	4.80	720518	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	760831	1	1.00	1.00	0.00	NA	NA
Arsenic	w	760831	1	1.00	1.00	0.00	NA	429
Cadmium	s	720518	1	0.55	0.55	0.00	NA	NA
Chromium	w	760831	1	20.00	20.00	0.00	0.1144	NA
Chromium	s	760831	1	10.00	10.00	0.00	NA	NA
Copper	s	760831	1	10.00	10.00	0.00	NA	NA
Lead	s	760831	1	20.00	20.00	0.00	NA	NA
Lead	w	760831	1	2.00	2.00	0.00	0.0409	NA
Mercury	s	760831	1	0.20	0.20	0.00	NA	NA
Mercury	w	760831	1	0.50	0.50	0.00	0.0072	NA
Nickel	s	760831	1	20.00	20.00	0.00	NA	NA
Selenium	w	760831	1	1.00	1.00	0.00	0.0095	NA
Zinc	s	760831	1	60.00	60.00	0.00	NA	NA
Zinc	w	760831	1	20.00	20.00	0.00	0.0027	NA
Chlordane_dwt	s	760831	1	20.00	20.00	0.00	NA	NA
Dieldrin	s	760831	1	0.40	0.40	0.00	NA	NA
Endrin	s	760831	1	0.40	0.40	0.00	NA	NA

<u>River</u>	Tonoloway Creek	<u>Station</u>	TOC0001
<u>R. Mile</u>	.10	<u>Agency</u>	MDOEP
<u>Location</u>	Near mouth Rt. 144 X-ing.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.10	0.10	740521	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740521	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740521	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740521	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

Station TOC0001 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740521	1	0.10	0.10	0.00	0.0099	NA
Chromium	w	740521	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740521	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740521	1	0.10	0.10	0.00	0.0020	NA

<u>River</u>	Sleepy Creek	<u>Station</u>	1ASLP034.20
<u>R. Mile</u>	034.20	<u>Agency</u>	VASWCB
<u>Location</u>	Route 697 Bridge, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-73	7(6)	NA	NA	5.00	5.00	720504	6
Cadmium	w	71-74	10(10)	-4.50	0.270	10.00	10.00	740419	9
Chromium	w	70-74	16(13)	0.00	0.270	10.00	19.99	700406	1
Copper	w	70-74	16(8)	0.00	0.270	10.00	19.99	710325	3
Lead	w	70-74	13(9)	0.00	0.500	10.00	19.99	720215	2
Mercury	w	70-74	14(13)	0.00	0.500	0.50	0.90	710413	1
Zinc	w	70-74	16(10)	0.00	0.330	10.00	59.99	710413	1
Dieldrin	w	71-71	2(0)	NA	NA	0.04	0.07	710630	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730809	1	1.00	1.00	0.00	NA	429
Cadmium	w	740419	2	5.50	5.50	6.36	0.5424	NA
Chromium	w	740419	4	10.00	10.00	0.00	0.0572	NA
Copper	w	740419	4	10.00	10.00	0.00	0.0077	NA
Lead	w	740419	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740419	4	0.50	0.50	0.00	0.0071	NA
Zinc	w	740419	4	10.00	12.50	5.00	0.0014	NA
Dieldrin	w	710630	2	0.04	0.04	0.05	NA	30

<u>River</u>	Sleepy Creek	<u>Station</u>	550466
<u>R. Mile</u>	231.50-7.30	<u>Agency</u>	WVDNR
<u>Location</u>	State Highway 9 Bridge, Morgan Co., W.Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	15(13)	NA	NA	2.00	30.00	760615	1
Cadmium	w	71-78	51(46)	0.00	0.000	4.00	20.00	740611	1
Chromium	w	74-78	35(25)	-1.33	0.010	4.00	24.00	760615	1
Chromium+6	w	68-78	82(60)	0.00	0.000	1.00	7.00	700601	1
Copper	w	71-78	20(5)	0.17	0.500	11.00	26.00	771108	1
Lead	w	71-78	53(40)	0.00	0.320	30.00	100.00	761116	6
Mercury	w	70-78	46(43)	0.00	0.080	0.20	1.00	700831	1
Nickel	w	74-78	13(11)	NA	NA	40.00	40.00	780321	8
Selenium	w	75-78	11(9)	NA	NA	1.00	3.00	760128	1
Silver	w	71-78	27(22)	0.40	0.070	4.00	24.00	761220	1
Zinc	w	72-78	39(3)	2.60	0.240	38.00	2460.00	750812	1
Cyanide	w	74-78	15(8)	0.00	0.500	0.00	0.00	780321	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

Station 550466 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780620	4	2.00	2.00	0.00	NA	858
Cadmium	w	780718	13	4.00	4.00	0.00	0.3945	NA
Chromium	w	780718	13	4.00	4.15	0.55	0.0229	NA
Chromium+6	w	780718	11	1.00	1.00	0.00	0.0057	NA
Copper	w	780620	5	6.00	9.60	9.32	0.0046	NA
Lead	w	780718	12	20.00	27.08	14.84	0.4086	NA
Mercury	w	780516	10	0.20	0.20	0.00	0.0029	NA
Nickel	w	780620	4	40.00	35.00	10.00	0.1144	NA
Selenium	w	780620	4	1.00	1.00	0.00	0.0095	NA
Silver	w	780620	4	4.00	4.00	0.00	0.0381	NA
Zinc	w	780718	13	40.00	44.77	31.24	0.0054	NA
Cyanide	w	780620	4	0.00	0.00	0.00	0.0000	NA

<u>River</u>	Licking Creek	<u>Station</u>	LIC0004
<u>R. Mile</u>	.40	<u>Agency</u>	MDOEP
<u>Location</u>	U. S. 40 Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Chromium	w	74-74	1(0)	NA	NA	0.10	0.10	740701	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740701	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740701	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740701	1	0.10	0.10	0.00	0.0099	NA
Chromium	w	740701	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740701	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740701	1	0.10	0.10	0.00	0.0020	NA
Mercury	w	740701	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Back Creek	<u>Station</u>	LABAR041.86
<u>R. Mile</u>	041.86	<u>Agency</u>	VASWCB
<u>Location</u>	Route 522 Bridge, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-77	5(5)	0.33	0.500	2.00	5.00	770225	1
Cadmium	w	73-78	9(9)	3.00	0.270	10.00	10.00	780103	7
Chromium	w	73-78	12(10)	0.00	0.500	10.00	10.00	780103	12
Copper	w	73-78	12(10)	0.00	0.500	10.00	10.00	780103	12
Lead	w	73-78	11(5)	-1.67	0.150	10.00	16.99	760324	1
Mercury	w	73-78	12(12)	0.00	0.270	0.50	0.50	780103	8
Zinc	w	73-78	12(7)	-6.66	0.270	10.00	69.99	760324	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

Station 1ABAR041.86 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770225	3	2.00	3.00	1.73	NA	858
Cadmium	w	780103	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	780103	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780103	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780103	2	2.00	2.00	1.41	0.0409	NA
Mercury	w	780103	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	780103	2	10.00	10.00	0.00	0.0014	NA

River	Back Creek	Station 1ABAR032.10
R. Mile	032.10	Agency VASWCB
Location	Route 740 Bridge, Frederick Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-77	10(9)	-0.55	0.370	4.00	6.00	710325	1
Cadmium	w	71-78	17(16)	0.00	0.380	10.00	10.00	780103	15
Chromium	w	70-78	24(19)	0.00	0.190	10.00	19.99	710325	3
Copper	w	70-78	24(13)	0.00	0.500	10.00	19.99	711206	4
Lead	w	70-78	21(15)	0.00	0.500	10.00	19.99	721030	1
Mercury	w	70-78	22(19)	0.00	0.160	0.50	2.80	710413	1
Zinc	w	70-78	24(17)	0.00	0.120	10.00	229.90	741023	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770225	3	2.00	2.00	0.00	NA	858
Cadmium	w	780103	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	780103	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780103	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780103	2	3.00	3.00	2.83	0.0613	NA
Mercury	w	780103	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	780103	2	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
II. POTOMAC HIGHLANDS

<u>River</u>	Back Creek	<u>Station</u>	550465
<u>R. Mile</u>	224.20-29.00	<u>Agency</u>	WVDNR
<u>Location</u>	State Route 45 Bridge, Berkeley Co., W.Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	17(12)	0.00	0.270	2.00	14.00	761220	1
Cadmium	w	71-78	37(32)	0.00	0.020	4.00	20.00	740611	1
Chromium	w	74-78	20(15)	-2.00	0.010	4.00	76.00	760615	1
Chromium+6	w	68-78	66(43)	0.00	0.000	1.00	8.00	700602	2
Copper	w	71-78	20(5)	-0.83	0.400	8.00	20.00	720725	1
Lead	w	71-78	40(30)	-2.00	0.050	30.00	100.00	760921	2
Mercury	w	70-78	34(34)	0.00	0.030	0.20	1.00	700901	1
Nickel	w	74-78	15(11)	-10.00	0.500	40.00	60.00	760615	1
Selenium	w	75-78	12(8)	0.00	0.500	1.00	3.00	760128	1
Silver	w	71-78	29(23)	0.45	0.110	4.00	20.00	760128	1
Zinc	w	72-78	26(4)	3.67	0.320	27.00	200.00	770621	1
Cyanide	w	74-78	17(9)	0.00	0.210	0.00	0.00	770621	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780620	5	2.00	4.60	3.97	NA	858
Cadmium	w	780620	5	4.00	4.00	0.00	0.3945	NA
Chromium	w	780620	5	4.00	4.00	0.00	0.0229	NA
Chromium+6	w	780620	5	1.00	1.00	0.00	0.0057	NA
Copper	w	780620	4	4.00	4.50	1.00	0.0031	NA
Lead	w	780620	4	20.00	20.00	0.00	0.4086	NA
Mercury	w	780321	3	0.20	0.20	0.00	0.0029	NA
Nickel	w	780620	5	40.00	28.80	16.35	0.1144	NA
Selenium	w	780620	4	1.00	1.00	0.00	0.0095	NA
Silver	w	780620	5	4.00	4.80	1.79	0.0381	NA
Zinc	w	780620	5	24.00	58.80	79.14	0.0033	NA
Cyanide	w	780620	5	0.00	0.00	0.00	0.0000	NA

<u>River</u>	Back Creek	<u>Station</u>	550464
<u>R. Mile</u>	224.20-7.90	<u>Agency</u>	WVDNR
<u>Location</u>	State Route 9 Highway Bridge, Berkeley Co., W.Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Antimony	w	79-84	10(4)	-10.00	0.110	60.00	160.00	820304	1
Arsenic	w	71-84	37(32)	0.00	0.070	2.00	51.00	711018	1
Cadmium	w	71-84	127(121)	0.00	0.080	4.00	20.00	740611	1
Chromium	w	74-84	56(44)	0.00	0.000	4.00	20.00	750429	3
Chromium+6	w	68-84	153(100)	0.00	0.020	1.00	11.00	770118	1
Copper	w	71-84	48(18)	-0.50	0.000	6.00	110.00	760615	1
Lead	w	71-84	133(108)	0.00	0.190	30.00	420.00	771108	1
Mercury	w	70-84	65(59)	0.00	0.050	0.20	1.00	700831	1
Nickel	w	74-84	29(23)	0.00	0.090	40.00	72.00	770816	1
Selenium	w	75-84	24(22)	0.00	0.270	1.00	3.00	760128	1
Silver	w	71-84	42(32)	0.00	0.420	4.00	23.00	770308	1
Zinc	w	72-84	59(4)	-0.05	0.420	34.00	302.00	760316	1
Cyanide	w	74-84	38(15)	0.00	0.030	0.00	0.01	821104	1
Phenols	w	82-84	23(14)	0.50	0.270	1.00	3.00	830503	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
 II. POTOMAC HIGHLANDS

Station 550464 (Cont'd.)

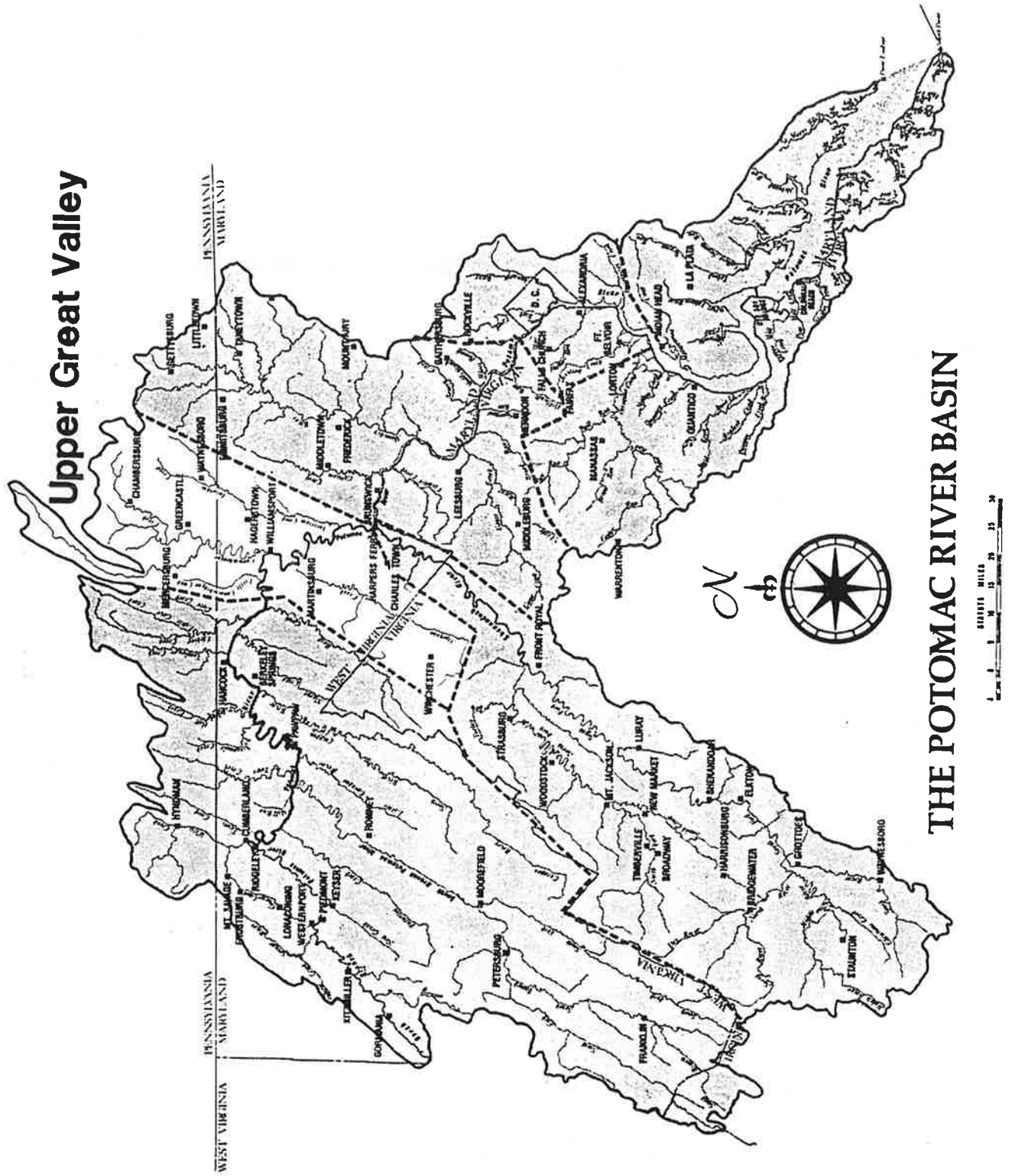
STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Med-ian	Mean	Std. Dev.	Hazard Index	Cancer Risk
Antimony	w	840306	2	50.00	50.00	14.14	3.5750	NA
Arsenic	w	840918	3	30.00	30.00	0.00	NA	12870
Cadmium	w	841002	10	4.00	4.00	0.00	0.3945	NA
Chromium	w	840918	4	4.00	4.00	0.00	0.0229	NA
Chromium+6	w	841002	10	1.00	1.50	1.08	0.0057	NA
Copper	w	840918	4	4.00	4.50	1.00	0.0031	NA
Lead	w	841002	12	40.00	40.00	0.00	0.8171	NA
Mercury	w	840918	2	0.20	0.20	0.00	0.0029	NA
Nickel	w	840918	2	40.00	40.00	0.00	0.1144	NA
Selenium	w	840918	2	1.00	1.00	0.00	0.0095	NA
Silver	w	840918	2	4.00	4.00	0.00	0.0381	NA
Zinc	w	840918	2	33.50	33.50	20.51	0.0046	NA
Cyanide	w	840806	3	0.00	0.00	0.00	0.0000	NA
Phenols	w	841002	11	1.00	1.45	0.52	0.0003	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

III. UPPER GREAT VALLEY

Map 3.



STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

III. UPPER GREAT VALLEY

The Upper Great Valley includes 54 miles (87 km) of the main stem Potomac River, extending from the Appalachian Mountains to the Shenandoah River at Harpers Ferry, West Virginia. In Maryland, this area is sometimes called the Hagerstown Valley, and, in Pennsylvania, it is termed the Cumberland Valley. In Virginia and West Virginia, the Upper Great Valley includes the drainage area of the Opequon Creek. On the other side of the river, the major tributaries include Conococheague and Antietam creeks.

Conococheague Creek

Conococheague Creek is formed by several shallow, meandering creeks near Chambersburg, Pennsylvania. It flows south through Maryland and meets the Potomac at Williamsport. Most of the drainage is in Pennsylvania (498 sq mi, 1,290 sq km), with 66 sq mi (171 sq km) in Maryland. Toxics monitoring data are available for 10 stations (see tables pp. III-6 to III-10) on the Conococheague and 1 tributary. Although the data include recent sediment and fish tissue sampling each at 1 station, the remaining stations have not been sampled for 15 years or more.

Significant decreasing trends were determined for Cadmium and Lead in Pennsylvania. Concentrations of Antimony, Arsenic, and Lead were reported at levels in water with the potential for human health hazard (and Arsenic in fish tissue at a concentration of potential human risk of cancer). None of the concentration data collected on the Conococheague since 1983 appear to exceed state water quality standards and criteria for parameters with assigned values.

Opequon Creek

Opequon Creek and its tributaries flow north through Virginia, then cross the eastern panhandle of West Virginia to the Potomac. Toxics monitoring data were available for the following tributaries to Opequon Creek:

- Stribling Run
- Hoge Run
- Hogue Creek
- Wrights Run
- Buffalo Lick Run

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

Abrams Creek
Redbud Run
Lick Run
Clearbrook Run
High View Mannor Pond

Although data were available from 39 sampling stations (see tables pp. III-11 to III-28) in the Opequon catchment, less than 20 had enough data on which to perform trend analysis. The data were 10 or more years old at all but a few stations.

Chromium, Copper, and Lead showed significant declining trends in the Opequon. Cadmium was the only parameter determined to show an increasing trend in concentration. Fish tissue data from the early 1970's indicated potential human cancer risk from Dieldrin in Wrights Run and P,P'DDD in High View Mannor Pond. Data from the 1980's indicated potential cancer risk from Arsenic in water, and Dieldrin and PCB-1260 in fish tissue from the Opequon in West Virginia. Sediment was sampled at only one station. Arsenic, Chlordane, Aldrin, Dieldrin, and PCB's in the Opequon and its tributaries indicated the potential for human risk from cancer. In addition, Chromium at one station in Virginia, and Lead at two stations in West Virginia, were found at potentially hazardous levels. Concentrations of Cadmium, Lead, Methyl Mercury, and Phenols in Opequon Creek and its tributaries appeared to be near to or in violation of state water quality standards and criteria in West Virginia.

Tuscarora Creek (Berkeley Co., W.Va.)

Toxics were sampled at 1 station (see table p. III-29) on Tuscarora Creek in the early 1980's. The data indicate that Chromium, Copper, and Lead showed significant declining trends. Antimony was found at levels which indicate human health hazard, and Arsenic was found in concentrations of potential human risk of cancer. There appeared to be no violations of West Virginia water quality standards.

Antietam Creek

Antietam Creek is 37 mi (60 km) long, draining 105 sq mi (272 sq km) of Pennsylvania and 187 sq mi (484 sq km) of Maryland. It enters the Potomac below Shepherdstown, West Virginia. Toxic water quality parameter data were collected at 26 stations (see tables pp. III-32 to III-43) on the Antietam and the following tributaries:

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

East Branch Antietam Creek
Grove Creek
Marsh Run
West Branch

Limited sediment data were collected at 2 stations in the 1970's, as were fish tissue data in the 1980's. Data collected at all but a few of the stations were limited to 2 parameters. No significant trends were determined for toxic parameters in this analysis for Antietam Creek. However, the concentrations of Arsenic, Lead, Chlordane, Dieldrin, and PCB's found in fish tissue indicated the potential for human cancer risk. No standards violations in the Antietam Creek catchment were evident for those parameters with assigned criteria.

Potomac Main Stem

Fish tissue and water samples were collected from the main stem of the Potomac River at 1 and 4 stations respectively (see tables pp. III-30, 31, and 43). Data from near Shepherdstown indicate increasing trends for Chromium and Lead. This is contrary to the decreasing trends determined for these parameters in Opequon Creek, which joins the Potomac upstream of Shepherdstown. Fish tissue collected in 1984 indicate a potential human risk of cancer from Arsenic, Chlordane, and PCB's. There were no apparent violations of Maryland state water quality standards in the Potomac main stem of the Upper Great Valley subdivision.

Summary

Toxic parameters were monitored at 81 stations in the Upper Great Valley. In many cases, only a few parameters were analyzed, and at only a few stations were fish tissue or sediment data collected.

Trend

Regional patterns in toxic water quality trends are somewhat mixed. Significant declining trends were determined for Cadmium and Lead in Conococheague Creek, and for Chromium, Copper, and Lead in Opequon Creek and its tributaries. Increasing trends were determined for Cadmium in Opequon Creek and for Chromium and Lead in the main stem Potomac at Shepherdstown. The increasing trends in the Potomac main stem are contrary to those of its upstream tributary, Opequon Creek. No significant parameter trends were determined for Antietam Creek.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

Human Health

Toxic parameters with potentially hazardous levels for human health included particularly high values of Arsenic in Opequon and Tuscarora creeks and of Antimony in Tuscarora Creek. Cadmium, Chlordane, Aldrin, Dieldrin, and PCB's were found at potentially hazardous levels scattered throughout the Opequon and its tributaries. Chromium and Lead were hazardous at one and two stations respectively in the Opequon. Fish tissue was found to be contaminated with Arsenic in the Conococheague; and Arsenic, Lead, Chlordane, Dieldrin, and PCB's were found in Anteitam Creek at potentially hazardous levels.

Toxic Status/Standards Exceedance

Concentrations of Cadmium, Lead, Methyl Mercury, and Phenols in Opequon Creek and its tributaries appeared to be near to or in violation of state water quality standards and criteria in West Virginia.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Conococheague Creek	<u>Station</u>	WQN0501
<u>R. Mile</u>		<u>Agency</u>	PADER
<u>Location</u>	1.0 mile West of Worleytown, Franklin Co., Pa.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Antimony	w	74-76	2(2)	NA	NA	75.00	100.00	760909	1
Arsenic	s	78-78	1(0)	NA	NA	23.00	23.00	780824	1
Arsenic	w	78-87	5(5)	-0.50	0.070	4.00	10.00	780824	1
Beryllium	w	74-80	4(4)	NA	NA	1.51	5.00	760909	1
Cadmium	sm	78-78	1(0)	NA	NA	0.08	0.08	780824	1
Cadmium	w	73-87	14(13)	-0.24	0.000	3.00	3.00	800813	8
Chromium	w	73-87	15(9)	-0.67	0.060	10.00	70.00	840912	1
Chromium+6	w	83-83	1(1)	NA	NA	10.00	10.00	830829	1
Chromium	s	78-78	1(0)	NA	NA	18.00	18.00	780824	1
Copper	s	78-78	1(0)	NA	NA	19.20	19.20	780824	1
Copper	w	73-88	20(13)	0.00	0.370	15.00	80.00	840912	1
Lead	s	78-78	1(0)	NA	NA	26.80	26.80	780824	1
Lead	w	73-88	19(19)	-4.55	0.000	5.00	50.00	800813	9
Mercury	w	73-87	9(9)	0.00	0.500	1.00	2.00	850919	4
Nickel	s	78-78	1(0)	NA	NA	21.60	21.60	780824	1
Nickel	w	74-88	18(9)	3.75	0.070	25.00	200.00	750903	1
Silver	w	74-74	1(1)	NA	NA	1.00	1.00	740722	1
Zinc	s	78-78	1(0)	NA	NA	58.00	58.00	780824	1
Zinc	w	73-88	19(5)	0.00	0.060	10.00	240.00	750903	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Antimony	w	760909	1	100.00	100.00	0.00	7.1500	NA
Arsenic	s	780824	1	23.00	23.00	0.00	NA	NA
Arsenic	w	870811	2	4.00	4.00	0.00	NA	1716
Beryllium	w	800813	1	3.00	3.00	0.00	0.1716	NA
Cadmium	sm	780824	1	0.08	0.08	0.00	NA	NA
Cadmium	w	870811	2	0.28	0.28	0.11	0.0271	NA
Chromium	w	870811	2	4.00	4.00	0.00	0.0229	NA
Chromium+6	w	830829	1	10.00	10.00	0.00	0.0572	NA
Chromium	s	780824	1	18.00	18.00	0.00	NA	NA
Copper	s	780824	1	19.20	19.20	0.00	NA	NA
Copper	w	880412	5	10.00	18.00	17.89	0.0077	NA
Lead	s	780824	1	26.80	26.80	0.00	NA	NA
Lead	w	880412	5	4.00	4.00	0.00	0.0817	NA
Mercury	w	870811	2	1.00	1.00	0.00	0.0143	NA
Nickel	s	780824	1	21.60	21.60	0.00	NA	NA
Nickel	w	880412	5	25.00	30.40	10.99	0.0715	NA
Silver	w	740722	1	1.00	1.00	0.00	0.0095	NA
Zinc	s	780824	1	58.00	58.00	0.00	NA	NA
Zinc	w	880412	5	10.00	12.00	3.94	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Conococheague Creek	<u>Station</u>	01614175
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Worleytown, Franklin Co., Pa.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	73-73	1(1)	NA	NA	3.00	3.00	730816	1
Chromium	w	73-73	1(0)	NA	NA	40.00	40.00	730816	1
Copper	w	73-73	1(0)	NA	NA	60.00	60.00	730816	1
Lead	w	73-73	1(1)	NA	NA	50.00	50.00	730816	1
Mercury	w	73-73	1(1)	NA	NA	0.50	0.50	730816	1
Zinc	w	73-73	1(0)	NA	NA	120.00	120.00	730816	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	730816	1	3.00	3.00	0.00	0.2959	NA
Chromium	w	730816	1	40.00	40.00	0.00	0.2288	NA
Copper	w	730816	1	60.00	60.00	0.00	0.0464	NA
Lead	w	730816	1	50.00	50.00	0.00	1.0214	NA
Mercury	w	730816	1	0.50	0.50	0.00	0.0072	NA
Zinc	w	730816	1	120.00	120.00	0.00	0.0163	NA

<u>River</u>	Conococheague Creek	<u>Station</u>	CON0210
<u>R. Mile</u>	21.00	<u>Agency</u>	MDOEP
<u>Location</u>	MD Rt. 58 Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	69-69	3(2)	NA	NA	0.01	10.00	690701	1
Cyanide	w	69-69	2(2)	NA	NA	0.00	0.00	690701	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	690701	3	0.01	3.34	5.77	0.0001	NA
Cyanide	w	690701	2	0.00	0.00	0.00	NA	NA

<u>River</u>	Conococheague Creek	<u>Station</u>	CON0183
<u>R. Mile</u>	18.30	<u>Agency</u>	MDOEP
<u>Location</u>	MD. Rt. 494 Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	69-69	2(2)	NA	NA	0.01	0.01	690701	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	690701	2	0.01	0.01	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Conococheague Creek	<u>Station</u>	01614500
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Fairview, Washington Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Lead	w	73-73	1(1)	NA	NA	2.00	2.00	731203	1
Zinc	w	73-73	1(0)	NA	NA	50.00	50.00	731203	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Lead	w	731203	1	2.00	2.00	0.00	0.0409	NA
Zinc	w	731203	1	50.00	50.00	0.00	0.0068	NA

<u>River</u>	Conococheague Creek	<u>Station</u>	CON0157
<u>R. Mile</u>	15.70	<u>Agency</u>	MDOEP
<u>Location</u>	Broadfording Road Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	69-69	2(2)	NA	NA	0.01	0.01	690701	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	690701	2	0.01	0.01	0.00	0.0001	NA

<u>River</u>	Conococheague Creek	<u>Station</u>	CON0089
<u>R. Mile</u>	8.90	<u>Agency</u>	MDOEP
<u>Location</u>	U. S. 40 Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	69-69	2(2)	NA	NA	0.01	0.01	690701	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	690701	2	0.01	0.01	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
 III. UPPER GREAT VALLEY

<u>River</u>	Conococheague Creek	<u>Station</u>	CON0051
<u>R. Mile</u>	5.10	<u>Agency</u>	MDOEP
<u>Location</u>	Kemps Mill Road Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	69-69	2(2)	NA	NA	0.01	0.01	690701	2
Cyanide	w	69-69	1(1)	NA	NA	0.00	0.00	690701	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	690701	2	0.01	0.01	0.00	0.0001	NA
Cyanide	w	690701	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Unnamed Tributary	<u>Station</u>	UWR0000
<u>R. Mile</u>	.00	<u>Agency</u>	MDOEP
<u>Location</u>	0.6 mile N. of Kemps on Kemps Mill Rd.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	69-69	1(1)	NA	NA	0.01	0.01	690630	1
Cyanide	w	69-69	1(1)	NA	NA	0.00	0.00	690630	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	690630	1	0.01	0.01	0.00	0.0001	NA
Cyanide	w	690630	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Conococheague Creek	<u>Station</u>	CON0005
<u>R. Mile</u>	.5	<u>Agency</u>	21MDOEP
<u>Location</u>	Bridge on Md. Rt. 68		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	79-84	14(6)	0.03	0.160	0.05	0.27	821018	1
Cadmium	f	79-84	14(0)	0.08	0.110	0.19	0.61	831026	1
Chromium	w	69-84	16(5)	0.14	0.160	0.55	1.40	811014	1
Copper	f	79-84	14(0)	0.16	0.040	0.61	6.80	841030	1
Lead	f	79-84	14(1)	0.11	0.230	1.75	3.50	841030	1
Mercury	f	79-84	14(0)	-0.03	0.110	0.09	0.19	811014	2
Zinc	f	79-84	14(0)	-2.98	0.310	14.50	26.00	811014	3
Alpha BHC	f	79-84	14(9)	0.00	0.050	0.00	0.00	811014	2
Gamma BHC(Lindane)	f	79-84	14(14)	0.00	0.500	0.00	0.00	841030	14
Chlordane	f	79-84	14(0)	0.01	0.230	0.03	0.16	831026	1
Cyanide	w	69-69	2(2)	NA	NA	0.00	0.00	690701	2
Dieldrin	f	79-84	14(6)	0.00	0.310	0.00	0.01	791204	1
Endrin	f	79-84	14(14)	0.00	0.500	0.00	0.00	791204	2
Heptachlor Epoxide	f	79-84	14(9)	0.00	0.070	0.00	0.01	831026	1
PCB's	f	79-84	14(0)	0.00	0.400	0.09	0.19	811014	1
P,P'DDD	f	79-84	14(3)	0.00	0.230	0.01	0.02	831026	1
P,P'DDE	f	79-84	14(0)	0.01	0.110	0.04	0.08	841030	1
P,P'DDT	f	79-84	14(12)	0.00	0.140	0.00	0.01	801008	1
Toxaphene	f	79-84	14(14)	0.00	0.500	0.01	0.01	841030	14

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	841030	2	0.17	0.17	0.04	NA	230
Cadmium	f	841030	2	0.43	0.43	0.23	0.1361	NA
Chromium	w	841030	2	0.85	0.85	0.21	0.0049	NA
Copper	f	841030	2	5.85	5.85	1.34	0.0147	NA
Lead	f	841030	2	2.20	2.20	1.84	0.1460	NA
Mercury	f	841030	2	0.03	0.03	0.00	0.0016	NA
Zinc	f	841030	2	6.00	6.00	0.14	0.0027	NA
Alpha BHC	f	841030	2	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	841030	2	0.00	0.00	0.00	NA	NA
Chlordane	f	841030	2	0.05	0.05	0.01	0.0975	8
Cyanide	w	690701	2	0.00	0.00	0.00	NA	NA
Dieldrin	f	841030	2	0.00	0.00	0.00	NA	11
Endrin	f	841030	2	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	841030	2	0.00	0.00	0.00	0.0039	NA
PCB's	f	841030	2	0.11	0.11	0.03	NA	44
P,P'DDD	f	841030	2	0.01	0.01	0.00	NA	NA
P,P'DDE	f	841030	2	0.07	0.07	0.02	NA	NA
P,P'DDT	f	841030	2	0.00	0.00	0.00	NA	NA
Toxaphene	f	841030	2	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Stribling Run	<u>Station</u>	02
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Route 621 Bridge, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chlordane	w	73-73	1(0)	NA	NA	0.39	0.39	730822	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chlordane	w	730822	1	0.39	0.39	0.00	0.2231	18

<u>River</u>	Opequon Creek	<u>Station</u>	03
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Route 620 Bridge, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Gamma_BHC(Lindane)	w	73-73	1(0)	NA	NA	1.00	1.00	730724	1
Chlordane	w	73-73	1(0)	NA	NA	0.20	0.20	730621	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Gamma_BHC(Lindane)	w	730724	1	1.00	1.00	0.00	0.0952	NA
Chlordane	w	730621	1	0.20	0.20	0.00	0.1144	9

<u>River</u>	Opequon Creek	<u>Station</u>	01
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Above Lake at Brtnvl, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Gamma_BHC(Lindane)	w	74-74	1(0)	NA	NA	0.10	0.10	740508	1
Chlordane	w	73-73	1(0)	NA	NA	0.07	0.07	730621	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Gamma_BHC(Lindane)	w	740508	1	0.10	0.10	0.00	0.0095	NA
Chlordane	w	730621	1	0.07	0.07	0.00	0.0400	3

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Opequon Creek	<u>Station</u>	1AOPE047.44
<u>R. Mile</u>	047.44	<u>Agency</u>	VASWCB
<u>Location</u>	Route 11 Bridge S. of Winchester, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-78	7(6)	-1.20	0.070	2.00	9.00	730814	1
Cadmium	w	73-78	9(9)	0.90	0.070	10.00	10.00	780816	1
Chromium	w	73-78	13(12)	0.00	0.190	10.00	10.00	780816	1
Copper	w	73-78	13(12)	0.00	0.190	10.00	10.00	780816	1
Lead	w	73-78	12(6)	-0.80	0.150	10.00	39.99	750407	1
Mercury	w	73-78	13(13)	-0.02	0.500	0.50	0.50	780213	8
Zinc	w	73-78	13(7)	1.00	0.500	10.00	39.99	750801	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780816	3	2.00	2.00	0.00	NA	858
Cadmium	w	780816	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780816	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780816	3	10.00	10.00	0.00	0.0077	NA
Lead	w	780816	3	7.00	8.33	5.13	0.1430	NA
Mercury	w	780816	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780816	3	10.00	13.33	5.77	0.0014	NA

<u>River</u>	Hoge Run	<u>Station</u>	20
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Above Opequon Creek, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chlordane	w	73-73	1(0)	NA	NA	16.10	16.10	730918	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chlordane	w	730918	1	16.10	16.10	0.00	9.2092	741

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Hogue Creek	<u>Station</u>	1AHOC007.96
<u>R. Mile</u>	007.96	<u>Agency</u>	VASWCB
<u>Location</u>	Route 50 Bridge, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-77	5(4)	-1.33	0.150	2.00	6.00	730809	1
Cadmium	w	73-78	9(8)	2.67	0.270	10.00	10.00	780103	7
Chromium	w	73-78	12(10)	0.00	0.500	10.00	10.00	780103	12
Copper	w	73-78	12(12)	0.00	0.500	10.00	10.00	780103	12
Lead	w	73-78	11(7)	-2.33	0.150	9.00	19.99	741023	1
Mercury	w	73-78	12(12)	0.00	0.270	0.50	0.50	780103	8
Zinc	w	73-78	12(8)	-3.33	0.270	10.00	19.99	730809	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770225	3	2.00	2.00	0.00	NA	858
Cadmium	w	780103	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	780103	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780103	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780103	2	2.50	2.50	0.71	0.0511	NA
Mercury	w	780103	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	780103	2	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Hogue Creek	<u>Station</u>	1AHOC006.23
<u>R. Mile</u>	006.23	<u>Agency</u>	VASWCB
<u>Location</u>	Route 679 Bridge, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-77	4(4)	NA	NA	2.00	2.00	770225	3
Cadmium	w	73-78	8(7)	NA	NA	10.00	10.00	780103	7
Chromium	w	73-78	12(11)	0.00	0.500	10.00	10.00	780103	12
Copper	w	73-78	12(9)	0.00	0.500	10.00	10.00	780103	12
Lead	w	73-78	11(5)	-0.33	0.270	10.00	12.99	760324	1
Mercury	w	73-78	12(12)	0.00	0.270	0.50	0.50	780103	8
Zinc	w	73-78	12(9)	0.00	0.500	10.00	89.99	741023	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770225	3	2.00	2.00	0.00	NA	858
Cadmium	w	780103	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	780103	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780103	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780103	2	0.55	0.55	0.64	0.0112	NA
Mercury	w	780103	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	780103	2	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Hogue Creek	<u>Station</u>	1AHOC003.67
<u>R. Mile</u>	003.67	<u>Agency</u>	VASWCB
<u>Location</u>	Route 522 Bridge, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-77	5(5)	0.33	0.500	2.00	3.00	750827	1
Cadmium	w	73-78	9(7)	0.00	0.500	10.00	10.00	780103	8
Chromium	w	73-78	12(11)	0.00	0.500	10.00	10.00	780103	12
Copper	w	73-78	12(12)	0.00	0.500	10.00	10.00	780103	12
Lead	w	73-78	11(7)	-2.67	0.150	10.00	52.99	750428	1
Mercury	w	73-78	12(11)	0.00	0.270	0.50	0.50	780103	8
Zinc	w	73-78	12(8)	-3.33	0.270	10.00	29.99	760324	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770225	3	2.00	2.00	0.00	NA	858
Cadmium	w	780103	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	780103	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780103	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780103	2	3.00	3.00	0.00	0.0613	NA
Mercury	w	780103	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	780103	2	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Pond on Tributary to Wrights Run	<u>Station</u>	25
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Pond on Trib. to Wrights Run, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Dieldrin	f	73-74	7(0)	NA	NA	0.09	0.37	730821	1
P,P'DDD	f	73-74	21(0)	NA	NA	0.07	0.34	740221	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Dieldrin	f	740221	7	0.09	0.15	0.13	NA	237
P,P'DDD	f	740221	21	0.07	0.08	0.07	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Opequon Creek	<u>Station</u>	1A0PE040.86
<u>R. Mile</u>	040.86	<u>Agency</u>	VASWCB
<u>Location</u>	Route 50 and 17 Bridge, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-78	7(6)	0.10	0.500	2.00	3.00	750801	1
Cadmium	w	73-78	9(9)	0.90	0.070	10.00	10.00	780816	1
Chromium	w	73-78	13(12)	0.00	0.190	10.00	10.00	780816	1
Copper	w	73-78	13(11)	-1.00	0.500	10.00	19.99	730814	2
Lead	w	73-78	12(6)	-1.05	0.230	9.50	25.99	760325	1
Mercury	w	73-78	13(12)	-0.02	0.500	0.50	0.50	780213	8
Zinc	w	73-78	13(5)	0.00	0.500	10.00	29.99	750801	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780816	3	2.00	2.00	0.00	NA	858
Cadmium	w	780816	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780816	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780816	3	10.00	10.00	0.00	0.0077	NA
Lead	w	780816	3	5.00	5.33	3.51	0.1021	NA
Mercury	w	780816	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780816	3	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Buffalo Lick Run	<u>Station</u>	16
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Route 723 Bridge, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chlordane	w	73-74	2(0)	NA	NA	0.18	0.30	740612	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chlordane	w	740612	2	0.18	0.18	0.17	0.1030	8

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Opequon Creek	<u>Station 15</u>
<u>R. Mile</u>		<u>Agency</u> VASWCB
<u>Location</u>	Route 655 Ford, Frederick Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Gamma BHC(Lindane)	w	73-73	1(0)	NA	NA	0.01	0.01	730724	1
Chlordane	w	73-73	2(0)	NA	NA	0.83	0.88	730621	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Gamma BHC(Lindane)	w	730724	1	0.01	0.01	0.00	0.0010	NA
Chlordane	w	730822	2	0.83	0.83	0.08	0.4719	38

<u>River</u>	Opequon Creek	<u>Station 13</u>
<u>R. Mile</u>		<u>Agency</u> VASWCB
<u>Location</u>	Above Abrams Creek, Frederick Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chlordane	w	73-73	1(0)	NA	NA	1.20	1.20	730822	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chlordane	w	730822	1	1.20	1.20	0.00	0.6864	55

<u>River</u>	Abrams Creek	<u>Station 05</u>
<u>R. Mile</u>		<u>Agency</u> VASWCB
<u>Location</u>	Abrams Creek at Route 11, Frederick Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chlordane	w	73-73	1(0)	NA	NA	0.10	0.10	730621	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chlordane	w	730621	1	0.10	0.10	0.00	0.0572	5

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Abrams Creek	<u>Station</u>	1AABR007.14
<u>R. Mile</u>	007.14	<u>Agency</u>	VASWCB
<u>Location</u>	Route 11 Bridge at Winchester, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-78	8(7)	0.10	0.500	2.00	5.00	720504	1
Cadmium	w	72-78	11(10)	0.00	0.130	10.00	10.00	780816	1
Chromium	w	72-78	16(15)	0.00	0.140	10.00	10.00	780816	1
Copper	w	72-78	16(12)	0.00	0.140	10.00	10.00	780816	1
Lead	w	72-78	15(9)	-0.55	0.220	10.00	17.99	750407	1
Mercury	w	72-78	16(15)	0.00	0.500	0.50	0.50	780213	8
Zinc	w	72-78	16(13)	0.00	0.500	10.00	19.99	750801	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780816	3	2.00	2.00	0.00	NA	858
Cadmium	w	780816	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780816	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780816	3	10.00	10.00	0.00	0.0077	NA
Lead	w	780816	3	7.00	8.00	7.54	0.1430	NA
Mercury	w	780816	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780816	3	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Abrams Creek	<u>Station</u>	06
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Above Sewage Treatment Plant, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chlordane	w	73-73	2(0)	NA	NA	0.79	1.50	730822	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chlordane	w	730822	2	0.79	0.79	1.01	0.4490	36

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
 TII. UPPER GREAT VALLEY

<u>River</u>	Abrams Creek	<u>Station 07</u>
<u>R. Mile</u>		<u>Agency</u> VASWCB
<u>Location</u>	Below Sewage Treatment Plant, Frederick Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chlordane-dwt	s	73-73	1(0)	NA	NA	500.00	500.00	730822	1
Dieldrin	s	74-74	1(0)	NA	NA	20.00	20.00	740325	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chlordane-dwt	s	730822	1	500.00	500.00	0.00	NA	NA
Dieldrin	s	740325	1	20.00	20.00	0.00	NA	NA

<u>River</u>	Abrams Creek	<u>Station 23</u>
<u>R. Mile</u>		<u>Agency</u> VASWCB
<u>Location</u>	Below O'Sullivan Rubr, Frederick Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chlordane-dwt	s	73-73	1(0)	NA	NA	200.00	200.00	730822	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chlordane-dwt	s	730822	1	200.00	200.00	0.00	NA	NA

<u>River</u>	Abrams Creek	<u>Station 04</u>
<u>R. Mile</u>		<u>Agency</u> VASWCB
<u>Location</u>	Below Lake at Route 50, Fredrick Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chlordane	w	73-73	2(0)	NA	NA	1.02	1.90	730822	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chlordane	w	730822	2	1.02	1.02	1.24	0.5863	47

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Abrams Creek	<u>Station</u> 1AABR005.80
<u>R. Mile</u>	005.80	<u>Agency</u> VASWCB
<u>Location</u>	Route 17-50-522 Bridge at Winchester, Frederick Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-78	7(7)	0.10	0.500	2.00	3.00	750801	1
Cadmium	w	73-78	9(7)	0.80	0.070	10.00	10.00	780816	1
Chromium	w	73-78	12(10)	0.00	0.190	10.00	10.00	780816	1
Copper	w	73-78	11(9)	0.00	0.270	10.00	10.00	780816	1
Lead	w	73-78	11(3)	-20.99	0.500	10.00	219.90	730814	1
Mercury	w	73-78	12(12)	-0.02	0.500	0.50	0.50	780213	8
Zinc	w	73-78	12(3)	-7.99	0.370	19.99	59.99	740416	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780816	3	2.00	2.00	0.00	NA	858
Cadmium	w	780816	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780816	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780816	3	10.00	10.00	0.00	0.0077	NA
Lead	w	780816	3	10.00	13.33	9.45	0.2043	NA
Mercury	w	780816	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780816	3	30.00	26.66	15.27	0.0041	NA

<u>River</u>	Abrams Creek	<u>Station</u> 1AABR002.73
<u>R. Mile</u>	002.73	<u>Agency</u> VASWCB
<u>Location</u>	Route 656/659 Bridge, Frederick Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	13(12)	-0.38	0.310	3.00	5.00	720504	6
Cadmium	w	71-78	17(17)	0.00	0.180	10.00	10.00	780816	1
Chromium	w	70-78	24(16)	0.00	0.300	10.00	29.99	731106	1
Copper	w	70-78	25(10)	0.00	0.170	10.00	99.99	731106	1
Lead	w	70-78	22(11)	-0.37	0.360	10.00	52.99	760825	1
Mercury	w	70-78	23(22)	0.00	0.500	0.50	1.40	710413	1
Zinc	w	70-78	25(6)	-3.50	0.090	19.99	59.99	710809	1
Dieldrin	w	71-71	1(0)	NA	NA	0.01	0.01	710607	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780816	3	2.00	2.00	0.00	NA	858
Cadmium	w	780816	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780816	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780816	3	10.00	10.00	0.00	0.0077	NA
Lead	w	780816	3	10.99	9.33	6.65	0.2245	NA
Mercury	w	780816	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780816	3	19.99	16.66	5.77	0.0027	NA
Dieldrin	w	710607	1	0.01	0.01	0.00	NA	9

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Abrams Creek	<u>Station</u>	1AABR000.76
<u>R. Mile</u>	000.76	<u>Agency</u>	VASWCB
<u>Location</u>	Route 7 Bridge at Winchester, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-76	3(3)	NA	NA	2.00	3.00	750801	1
Cadmium	w	73-76	5(4)	NA	NA	10.00	10.00	760325	4
Chromium	w	73-76	9(9)	NA	NA	10.00	10.00	760325	9
Copper	w	73-76	9(7)	NA	NA	10.00	10.00	760325	9
Lead	w	73-76	8(3)	NA	NA	10.00	20.99	760325	1
Mercury	w	73-76	9(9)	NA	NA	0.50	10.00	750407	1
Zinc	w	73-76	8(1)	NA	NA	14.99	59.99	750801	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	760325	2	2.50	2.50	0.71	NA	1073
Cadmium	w	760325	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	760325	3	10.00	10.00	0.00	0.0572	NA
Copper	w	760325	3	10.00	10.00	0.00	0.0077	NA
Lead	w	760325	3	8.00	11.66	8.14	0.1634	NA
Mercury	w	760325	3	0.50	3.67	5.48	0.0072	NA
Zinc	w	760325	2	34.99	34.99	35.35	0.0048	NA

<u>River</u>	Opequon Creek	<u>Station</u>	1AOPE032.52
<u>R. Mile</u>	032.52	<u>Agency</u>	VASWCB
<u>Location</u>	Route 7 Bridge at Gaging Station, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	12(10)	-0.55	0.070	5.00	9.00	730814	1
Cadmium	w	71-78	16(16)	0.00	0.180	10.00	10.00	780816	1
Chromium	w	70-78	24(19)	0.00	0.400	10.00	19.99	701118	2
Copper	w	70-78	24(13)	0.00	0.500	10.00	19.99	711206	5
Lead	w	70-78	21(13)	-0.92	0.090	10.00	79.99	710413	1
Mercury	w	70-78	22(18)	-0.03	0.290	0.50	4.90	720804	1
Zinc	w	70-78	24(14)	0.00	0.240	10.00	69.99	710413	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780816	2	2.00	2.00	0.00	NA	858
Cadmium	w	780816	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780816	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780816	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780816	2	8.00	8.00	4.24	0.1633	NA
Mercury	w	780816	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	780816	2	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Opequon Creek	<u>Station</u>	01615000
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	State Hwy 7 near Berryville, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	72-73	2(1)	NA	NA	160.00	300.00	720928	1
Cyanide	w	72-72	1(0)	NA	NA	0.01	0.01	721214	1
Dieldrin	w	72-72	1(0)	NA	NA	0.05	0.05	721025	1
Endrin	w	72-72	1(0)	NA	NA	0.01	0.01	721214	1
Phenols	w	72-73	3(0)	NA	NA	5.00	7.00	731227	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	730910	2	160.00	160.00	197.99	0.9152	NA
Cyanide	w	721214	1	0.01	0.01	0.00	NA	NA
Dieldrin	w	721025	1	0.05	0.05	0.00	NA	43
Endrin	w	721214	1	0.01	0.01	0.00	NA	NA
Phenols	w	731227	2	6.00	6.00	1.41	0.0017	NA

<u>River</u>	Redbud Run	<u>Station</u>	1ARE004.45
<u>R. Mile</u>	004.45	<u>Agency</u>	VASWCB
<u>Location</u>	Route 11 Bridge, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-78	7(7)	-0.33	0.270	2.00	5.00	720504	1
Cadmium	w	72-78	10(10)	0.00	0.190	10.00	10.00	780816	1
Chromium	w	72-78	15(14)	0.00	0.190	10.00	10.00	780816	1
Copper	w	72-78	15(13)	0.00	0.190	10.00	10.00	780816	1
Lead	w	72-78	14(9)	-1.25	0.150	10.00	20.99	760325	1
Mercury	w	72-78	15(15)	-0.02	0.500	0.50	0.50	780213	8
Zinc	w	72-78	15(9)	0.00	0.500	10.00	20.00	780816	1
Phenols	w	78-78	2(1)	NA	NA	0.00	0.01	780304	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780816	3	2.00	2.00	0.00	NA	858
Cadmium	w	780816	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780816	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780816	3	10.00	10.00	0.00	0.0077	NA
Lead	w	780816	3	2.00	7.00	9.53	0.0409	NA
Mercury	w	780816	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780816	3	10.00	13.33	5.77	0.0014	NA
Phenols	w	780627	2	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Redbud Run	<u>Station</u>	1ARE001.61
<u>R. Mile</u>	001.61	<u>Agency</u>	VASWCB
<u>Location</u>	Route 656 Bridge, Winchester, Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-78	5(5)	0.20	0.270	2.00	2.00	780816	4
Cadmium	w	73-78	7(7)	1.80	0.150	10.00	10.00	780816	1
Chromium	w	73-78	11(8)	0.00	0.270	10.00	10.00	780816	1
Copper	w	73-78	11(10)	0.00	0.270	10.00	10.00	780816	1
Lead	w	73-78	10(6)	-1.60	0.270	10.00	39.99	750407	1
Mercury	w	73-78	11(11)	-0.04	0.500	0.50	0.50	780213	6
Zinc	w	73-78	11(9)	0.00	0.270	10.00	10.00	780816	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780816	3	2.00	2.00	0.00	NA	858
Cadmium	w	780816	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780816	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780816	3	10.00	10.00	0.00	0.0077	NA
Lead	w	780816	3	10.99	9.66	7.09	0.2245	NA
Mercury	w	780816	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780816	3	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Redbud Run	<u>Station</u>	1ARE000.46
<u>R. Mile</u>	000.46	<u>Agency</u>	VASWCB
<u>Location</u>	Route 659 Bridge, Winchester, Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-78	7(6)	0.10	0.500	2.00	3.00	750801	1
Cadmium	w	73-78	9(8)	0.90	0.070	10.00	10.00	780816	1
Chromium	w	73-78	13(9)	0.00	0.190	10.00	10.00	780816	1
Copper	w	73-78	13(13)	0.00	0.190	10.00	10.00	780816	1
Lead	w	73-78	12(6)	-1.30	0.230	10.00	39.99	750407	1
Mercury	w	73-78	13(13)	-0.02	0.500	0.50	0.50	780213	8
Zinc	w	73-78	11(7)	-3.33	0.500	10.00	69.99	750801	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780816	3	2.00	2.00	0.00	NA	858
Cadmium	w	780816	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780816	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780816	3	10.00	10.00	0.00	0.0077	NA
Lead	w	780816	3	10.99	13.33	12.66	0.2245	NA
Mercury	w	780816	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780213	2	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Redbud Run	<u>Station 08</u>
<u>R. Mile</u>		<u>Agency</u> VASWCB
<u>Location</u>	Off Route 661, Frederick Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Gamma_BHC(Lindane)	w	74-74	2(0)	NA	NA	0.23	0.40	740221	1
Dieldrin	s	74-74	1(0)	NA	NA	2.00	2.00	740325	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Gamma-BHC(Lindane)	w	740411	2	0.23	0.23	0.23	0.0219	NA
Dieldrin	s	740325	1	2.00	2.00	0.00	NA	NA

<u>River</u>	Lick Run	<u>Station 09</u>
<u>R. Mile</u>		<u>Agency</u> VASWCB
<u>Location</u>	Route 664 Bridge, Frederick Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chlordane	w	73-73	1(0)	NA	NA	0.76	0.76	730822	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chlordane	w	730822	1	0.76	0.76	0.00	0.4347	35

<u>River</u>	Opequon Creek	<u>Station 12</u>
<u>R. Mile</u>		<u>Agency</u> VASWCB
<u>Location</u>	Opequon Creek at Burnt Factory, Frederick Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chlordane	w	73-73	1(0)	NA	NA	0.10	0.10	730621	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chlordane	w	730621	1	0.10	0.10	0.00	0.0572	5

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Opequon Creek	<u>Station 11</u>
<u>R. Mile</u>		<u>Agency</u> VASWCB
<u>Location</u>	Wadeville, Frederick Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chlordane	w	73-73	2(0)	NA	NA	3.15	6.20	730122	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chlordane	w	730621	2	3.15	3.15	4.31	1.8018	145

<u>River</u>	Clearbrook Run	<u>Station</u> 1ACLB000.26
<u>R. Mile</u>	000.26	<u>Agency</u> VASWCB
<u>Location</u>	Route 749 Bridge, Frederick Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(10)	-0.38	0.310	5.00	6.00	710325	1
Cadmium	w	71-78	15(15)	0.00	0.180	10.00	10.00	780816	1
Chromium	w	70-78	20(14)	0.00	0.300	10.00	99.99	721030	1
Copper	w	70-78	19(11)	0.00	0.220	10.00	99.99	721030	1
Lead	w	70-78	18(11)	-0.83	0.110	10.00	99.99	721030	1
Mercury	w	70-78	18(17)	0.00	0.500	0.50	1.20	710413	1
Zinc	w	70-78	19(8)	0.00	0.500	10.00	99.99	721030	1
Dieldrin	w	71-71	4(0)	NA	NA	0.36	1.50	710630	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780816	1	2.00	2.00	0.00	NA	858
Cadmium	w	780816	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	780816	1	10.00	10.00	0.00	0.0572	NA
Copper	w	780816	1	10.00	10.00	0.00	0.0077	NA
Lead	w	780816	1	5.00	5.00	0.00	0.1021	NA
Mercury	w	780816	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	780816	1	30.00	30.00	0.00	0.0041	NA
Dieldrin	w	710630	4	0.36	0.63	0.58	NA	313

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
III. UPPER GREAT VALLEY

<u>River</u>	Opequon Creek	<u>Station</u>	1AOPE023.56
<u>R. Mile</u>	023.56	<u>Agency</u>	VASWCB
<u>Location</u>	Route 667 Bridge, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(10)	-0.38	0.310	2.00	5.00	720504	4
Cadmium	w	71-78	15(14)	0.00	0.180	10.00	10.00	780816	1
Chromium	w	70-78	23(19)	0.00	0.120	10.00	29.99	701118	1
Copper	w	70-78	23(15)	0.00	0.250	10.00	19.99	720504	4
Lead	w	70-78	20(14)	-1.00	0.120	10.00	29.99	750407	1
Mercury	w	70-78	21(19)	0.00	0.500	0.50	0.80	701118	1
Zinc	w	70-78	23(11)	-1.83	0.030	10.00	49.99	710413	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780816	3	2.00	2.00	0.00	NA	858
Cadmium	w	780816	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780816	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780816	3	10.00	10.00	0.00	0.0077	NA
Lead	w	780816	3	7.00	12.66	13.42	0.1430	NA
Mercury	w	780816	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780816	3	10.00	13.33	5.77	0.0014	NA

<u>River</u>	Opequon Creek	<u>Station</u>	10
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Below Turkey Run, Frederick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Gamma-BHC(Lindane)	w	73-73	1(0)	NA	NA	0.02	0.02	730724	1
Chlordane	w	73-73	1(0)	NA	NA	0.20	0.20	730621	1
Dieldrin	s	73-73	1(0)	NA	NA	20.00	20.00	730822	1

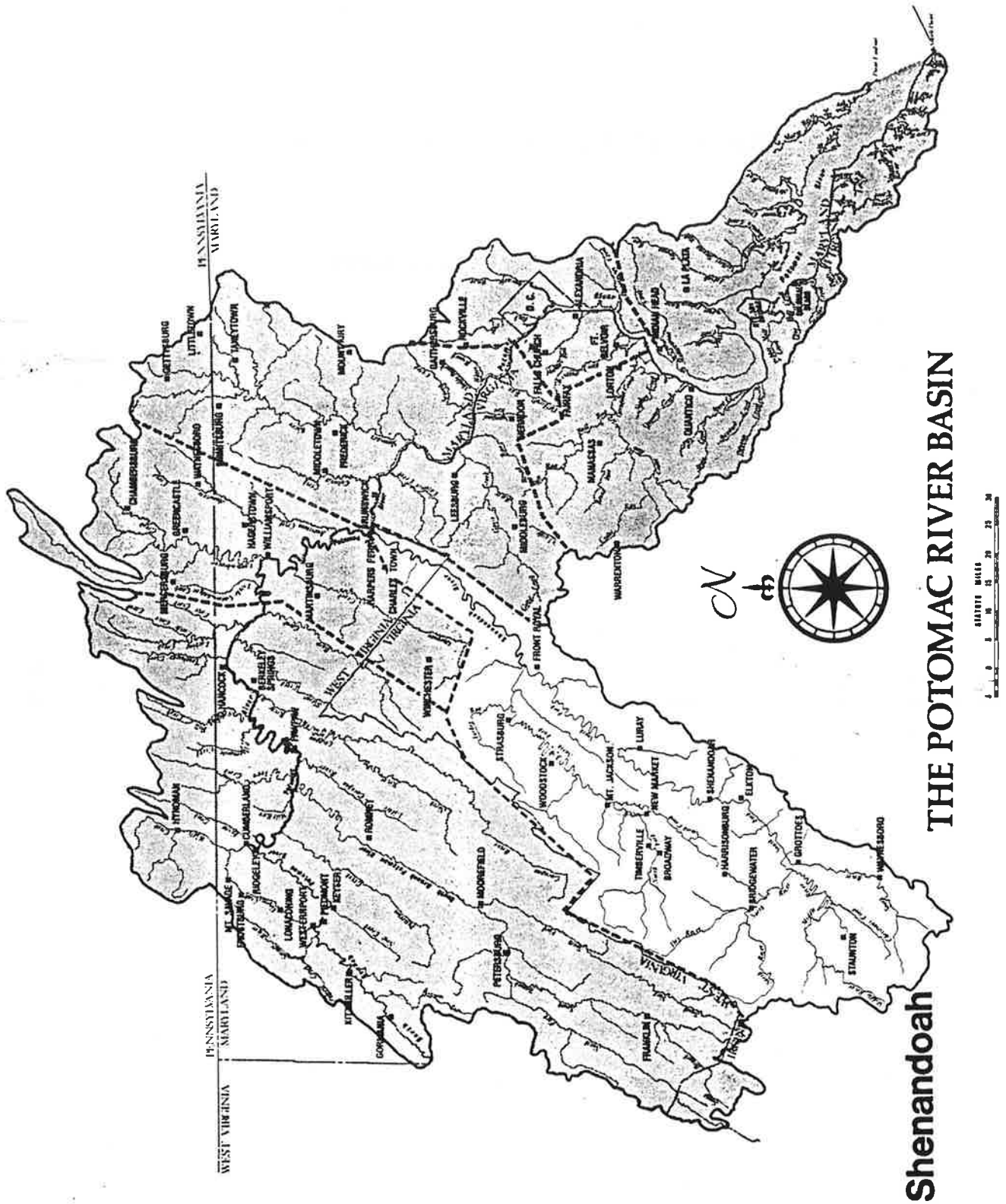
STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Gamma-BHC(Lindane)	w	730724	1	0.02	0.02	0.00	0.0019	NA
Chlordane	w	730621	1	0.20	0.20	0.00	0.1144	9
Dieldrin	s	730822	1	20.00	20.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

IV. SHENANDOAH RIVER BASIN

Map 4.



STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

IV. SHENANDOAH RIVER BASIN

The Shenandoah River drains a basin of 3,054 sq mi (7,910 sq km) in Virginia and West Virginia. The Shenandoah River is 100 mi (161 km) long and drains headwaters in Augusta and Highland counties and flows northeast through Frederick and Clarke counties in Virginia, and Jefferson County, West Virginia. The Shenandoah is the largest tributary to the Potomac, and is formed by the combination of flows from the North and South forks where they converge at Front Royal, Virginia. The Shenandoah subdivision is the only true sub-basin of the six subdivisions used in this report.

North Fork of the Shenandoah River

The North Fork of the Shenandoah River contributes 40 percent of the flow of the Shenandoah. The North Fork is 117 miles (188 km) long, and its main tributary streams are:

- Smith Creek
- Stony Creek
- Cedar Creek
- Passage Creek

Toxic water quality parameter data were collected at 25 stations (see tables pp. IV-6 to IV-24) in the North Fork catchment area. Except where noted, the period of record for the data analyzed ended six or more years prior to the date of this report. Fish tissue and sediment data were available at 2 and 8 stations, respectively. These data were generally from the more actively and recently sampled stations.

Significant decreasing trends for Lead were determined at four stations. Other notable trends were decreases in Arsenic and Mercury on Cedar Creek and near the mouth of the North Fork, and mixed trends in Zinc on the North Fork.

A potential human health hazard was indicated for Cadmium, and there are cancer risks for Arsenic in water at almost all of the stations on the North Fork and its tributaries. These human health hazards were indicated for parameter concentrations which were generally at or below the limits of detection. A sampling program on Cedar Creek in 1986 included a number of organic compounds in fish tissue (most parameter concentrations were at or below detection limits). The notable exception was an

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

Arsenic concentration in fish tissue which indicated a relatively high cancer risk. Fish taken from near the mouth of the North Fork in 1985 also indicated a relatively high potential human cancer risk. Water samples collected in 1985 from Cedar Creek and near the mouth of the North Fork were well within Virginia water quality standards for Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, and Zinc.

South Fork of the Shenandoah

Toxic parameter sampling data were available for a total of 55 stations (see tables pp. IV-25 to IV-57) on the South Fork and the following tributaries:

Muddy Creek
North River
Blacks Run
Cooks Creek
Middle River
Poague Run
Lewis Creek
Christians Creek
South River
Hawksbill Creek

All of the water quality data from the North River catchment is from 1980 or earlier, and there is none for fish tissue or sediment. The same is generally true in the Middle and South river catchments, except that at 1 and 2 stations, respectively, sediment data were collected during the early 1980's. The same pattern of water quality data is apparent for Hawksbill Creek on the South Fork where 1 and 4 stations respectively had sediment data, and where fish tissue data was available for the South Fork at Front Royal, Virginia.

Sampling stations on the South Fork and its tributaries indicated significant decreasing trends in Lead. The only exception was near the mouth of Blacks Run where a positive trend in Lead was determined. Other significant decreasing trends were determined for Arsenic in Cooks Creek and the South Fork, but most of the observations were at or below the detection, limit which more likely indicates a trend in detection capabilities than parameter concentration. Chromium and Copper had significant decreasing trends in the South River, whereas the trend in Zinc was increasing.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

The human health impact analysis indicated hazards from Cadmium, and potential cancer risks from Arsenic in water at almost all of the stations on the South Fork and its tributaries. These human health hazards were indicated for parameter concentrations which were generally at or below the limits of detection. There are, however, several notable exceptions: a high cancer risk (possible data error) was indicated for Arsenic in 1978 on the North River. No verification of data was attempted by ICPRB in this analysis. At the least, this would require range values for all parameters for all analytical laboratories, for all periods of record, for all collecting agencies. The other exception was a potential human cancer risk in fish tissue near the mouth of the South Fork during the year 1985. A potential human health hazard for Lead was determined at 1 station on the North River and 2 on Lewis Creek. Few water samples were collected within the last 5 years; however, those collected in 1985 from near the mouth of the South Fork were well within Virginia water quality standards for Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, and Zinc.

Shenandoah River

Toxic parameter data were available at 17 stations (see tables pp. IV-57 to IV-67) on the Shenandoah River and local tributaries from the confluence of the North and South forks at Front Royal, Virginia to the mouth of the Shenandoah at Harpers Ferry, West Virginia. In addition to the Shenandoah main stem, data were available for the following tributaries:

Happy Creek
Stephens Run
Long Marsh Run
Dog Run

All except the most downstream station in Virginia had no data more recent than 1979. From that station, at the Route 7 bridge near the West Virginia border, some long term and recent data were available for water, sediment, and fish tissue. Of the 4 stations in West Virginia, sediment data were available from 2 and fish tissue data from 1.

Trends in Lead concentration, where significant, were negative. A negative trend in Arsenic was determined on Dog Run, as well as negative trends in Copper and Zinc on the Shenandoah River in West Virginia. Potential risk of cancer to humans was indicated for Arsenic in fish in the Virginia portion of the Shenandoah. PCB-1260 and Arsenic were reported at ~~potentially~~ hazardous levels in West Virginia. Potential human health hazards were

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

indicated from Lead in Stephens Run and the Shenandoah in West Virginia. Antimony also was reported at potentially hazardous concentrations in the Shenandoah in West Virginia. Water samples from the Shenandoah River appeared to approach or exceed West Virginia water quality standards for Cadmium and Mercury.

Summary

Trend

Water quality data from the 97 sampling stations in the Shenandoah River basin was generally not very current. However, regional patterns in toxic water quality trends usually indicated decreases in concentration. Parameter values indicated as being at or below the limits of detection most likely indicate refinements in detectability. Significant negative trends were most common for Arsenic, Copper, and Lead.

Human Health

Potential human health hazards for Cadmium were almost everywhere significant, as were potential cancer risks for Arsenic. However, concentration values for these parameters were almost always flagged as being at or below the detection limits. Several notable exceptions were: Arsenic in fish tissue from Cedar Creek and the North Fork, and in water from the North River; and Antimony in water from the Shenandoah in West Virginia.

Toxic Status/Standards Exceedance

The comparison of recent data with state water quality standards indicated that parameter concentrations were generally within standards with a few exceptions near the mouth of the Shenandoah River.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	North Fork Shenandoah	<u>Station</u>	1BNFS093.53
<u>R. Mile</u>	093.53	<u>Agency</u>	VASWCB
<u>Location</u>	Route 259 Bridge, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	83-83	1(0)	NA	NA	10.00	10.00	830613	1
Arsenic	w	75-82	5(5)	-0.33	0.270	2.00	3.00	750827	1
Beryllium	s	83-83	1(1)	NA	NA	1.70	1.70	830613	1
Cadmium	s	83-83	1(1)	NA	NA	0.17	0.17	830613	1
Cadmium	w	74-82	6(6)	0.00	0.270	10.00	10.00	780824	1
Chromium	w	74-82	8(8)	0.00	0.270	10.00	10.00	820712	2
Chromium	s	83-83	1(0)	NA	NA	15.10	15.10	830613	1
Copper	s	83-83	1(0)	NA	NA	9.10	9.10	830613	1
Copper	w	74-82	8(8)	0.00	0.270	10.00	10.00	820712	2
Lead	s	83-83	1(0)	NA	NA	16.60	16.60	830613	1
Lead	w	74-82	8(4)	1.33	0.500	9.00	22.99	760322	1
Mercury	s	83-83	1(0)	NA	NA	0.15	0.15	830613	1
Mercury	w	74-82	8(8)	-0.07	0.270	0.50	0.50	760809	6
Nickel	s	83-83	1(0)	NA	NA	18.30	18.30	830613	1
Nickel	w	82-82	1(1)	NA	NA	10.00	10.00	820712	1
Zinc	s	83-83	1(0)	NA	NA	59.80	59.80	830613	1
Zinc	w	74-82	8(2)	0.00	0.500	14.99	40.00	820712	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	830613	1	10.00	10.00	0.00	NA	NA
Arsenic	w	820712	1	1.00	1.00	0.00	NA	429
Beryllium	s	830613	1	1.70	1.70	0.00	NA	NA
Cadmium	s	830613	1	0.17	0.17	0.00	NA	NA
Cadmium	w	820712	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	820712	1	10.00	10.00	0.00	0.0572	NA
Chromium	s	830613	1	15.10	15.10	0.00	NA	NA
Copper	s	830613	1	9.10	9.10	0.00	NA	NA
Copper	w	820712	1	10.00	10.00	0.00	0.0077	NA
Lead	s	830613	1	16.60	16.60	0.00	NA	NA
Lead	w	820712	1	2.00	2.00	0.00	0.0409	NA
Mercury	s	830613	1	0.15	0.15	0.00	NA	NA
Mercury	w	820712	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	830613	1	18.30	18.30	0.00	NA	NA
Nickel	w	820712	1	10.00	10.00	0.00	0.0286	NA
Zinc	s	830613	1	59.80	59.80	0.00	NA	NA
Zinc	w	820712	1	40.00	40.00	0.00	0.0054	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	North Fork Shenandoah	<u>Station</u> 1BNFS090.16
<u>R. Mile</u>	090.16	<u>Agency</u> VASWCB
<u>Location</u>	Route 617 Bridge above Broadway, Rockingham Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	10(10)	-0.38	0.310	4.00	5.00	720519	5
Cadmium	w	71-78	14(14)	0.00	0.180	10.00	10.00	780824	1
Chromium	w	70-78	23(17)	0.00	0.120	10.00	29.99	701117	1
Copper	w	70-78	22(16)	0.00	0.500	10.00	39.99	700407	1
Lead	w	70-78	20(13)	-0.93	0.120	10.00	189.90	720214	1
Mercury	w	70-78	21(18)	0.00	0.420	0.50	1.30	750827	1
Zinc	w	70-78	23(12)	0.00	0.430	10.00	29.99	710414	1
Dieldrin	w	71-71	1(0)	NA	NA	0.02	0.02	710504	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780824	1	2.00	2.00	0.00	NA	858
Cadmium	w	780824	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	780824	1	10.00	10.00	0.00	0.0572	NA
Copper	w	780824	1	10.00	10.00	0.00	0.0077	NA
Lead	w	780824	1	4.00	4.00	0.00	0.0817	NA
Mercury	w	780824	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	780824	1	10.00	10.00	0.00	0.0014	NA
Dieldrin	w	710504	1	0.02	0.02	0.00	NA	17

<u>River</u>	North Fork Shenandoah	<u>Station</u> 1BNFS088.38
<u>R. Mile</u>	088.38	<u>Agency</u> VASWCB
<u>Location</u>	Up from Rockingham Poultry Discharge, Rockingham Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-78	5(5)	0.10	0.500	2.00	3.00	750827	1
Cadmium	w	72-78	7(7)	0.00	0.130	10.00	10.00	780824	1
Chromium	w	72-78	13(13)	0.00	0.140	10.00	10.00	780824	1
Copper	w	72-78	13(13)	0.00	0.140	10.00	10.00	780824	1
Lead	w	72-78	12(8)	0.67	0.160	10.00	14.00	780824	1
Mercury	w	72-78	13(12)	-0.04	0.160	0.50	0.60	720801	1
Zinc	w	72-78	13(7)	5.00	0.020	10.00	40.00	780824	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780824	1	2.00	2.00	0.00	NA	858
Cadmium	w	780824	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	780824	1	10.00	10.00	0.00	0.0572	NA
Copper	w	780824	1	10.00	10.00	0.00	0.0077	NA
Lead	w	780824	1	14.00	14.00	0.00	0.2860	NA
Mercury	w	780824	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	780824	1	40.00	40.00	0.00	0.0054	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	North Fork Shenandoah	<u>Station</u>	1BNFS088.19
<u>R. Mile</u>	088.19	<u>Agency</u>	VASWCB
<u>Location</u>	Rockingham Poultry Effluent Discharge, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-73	1(1)	NA	NA	1.00	1.00	730804	1
Cadmium	w	72-74	3(3)	NA	NA	10.00	10.00	740419	2
Chromium	w	72-74	6(5)	NA	NA	10.00	10.00	740419	6
Copper	w	72-74	6(4)	NA	NA	10.00	10.00	740419	6
Lead	w	72-74	5(4)	NA	NA	10.00	10.00	740419	5
Mercury	w	72-74	6(6)	NA	NA	0.50	0.50	740419	6
Zinc	w	72-74	6(2)	NA	NA	34.99	59.99	731113	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730804	1	1.00	1.00	0.00	NA	429
Cadmium	w	740419	2	5.50	5.50	6.36	0.5424	NA
Chromium	w	740419	4	10.00	10.00	0.00	0.0572	NA
Copper	w	740419	4	10.00	10.00	0.00	0.0077	NA
Lead	w	740419	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740419	4	0.50	0.50	0.00	0.0071	NA
Zinc	w	740419	4	29.99	32.49	26.29	0.0041	NA

<u>River</u>	North Fork Shenandoah	<u>Station</u>	1BNFS088.00
<u>R. Mile</u>	088.00	<u>Agency</u>	VASWCB
<u>Location</u>	Up from Shen-Valley Meat Packers, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-78	5(5)	0.10	0.500	2.00	3.00	750827	1
Cadmium	w	72-78	8(8)	0.00	0.130	10.00	10.00	780824	1
Chromium	w	72-78	13(13)	0.00	0.140	10.00	10.00	780824	1
Copper	w	72-78	13(12)	0.00	0.140	10.00	19.99	730111	1
Lead	w	72-78	12(8)	-0.18	0.310	10.00	10.00	750122	7
Mercury	w	72-78	13(13)	0.00	0.500	0.50	0.50	760809	6
Zinc	w	72-78	13(5)	0.84	0.130	10.00	20.00	780824	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780824	1	2.00	2.00	0.00	NA	858
Cadmium	w	780824	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	780824	1	10.00	10.00	0.00	0.0572	NA
Copper	w	780824	1	10.00	10.00	0.00	0.0077	NA
Lead	w	780824	1	9.00	9.00	0.00	0.1839	NA
Mercury	w	780824	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	780824	1	20.00	20.00	0.00	0.0027	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	North Fork Shenandoah	<u>Station</u>	1BNFS087.81
<u>R. Mile</u>	087.81	<u>Agency</u>	VASWCB
<u>Location</u>	Shen-Valley Meat Packers Effluent, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-73	1(1)	NA	NA	1.00	1.00	730804	1
Cadmium	w	72-74	3(3)	NA	NA	10.00	10.00	740419	2
Chromium	w	72-74	6(5)	NA	NA	10.00	10.00	740419	6
Copper	w	72-74	6(5)	NA	NA	10.00	10.00	740419	6
Lead	w	72-74	5(4)	NA	NA	10.00	99.99	720801	1
Mercury	w	72-74	6(6)	NA	NA	0.50	0.50	740419	6
Zinc	w	72-74	6(2)	NA	NA	10.00	19.99	730111	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730804	1	1.00	1.00	0.00	NA	429
Cadmium	w	740419	2	5.50	5.50	6.36	0.5424	NA
Chromium	w	740419	4	10.00	10.00	0.00	0.0572	NA
Copper	w	740419	4	10.00	10.00	0.00	0.0077	NA
Lead	w	740419	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740419	4	0.50	0.50	0.00	0.0071	NA
Zinc	w	740419	4	10.00	10.00	0.00	0.0014	NA

<u>River</u>	North Fork Shenandoah	<u>Station</u>	1BNFS087.02
<u>R. Mile</u>	087.02	<u>Agency</u>	VASWCB
<u>Location</u>	Route 42 Bridge at Timberville, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	10(9)	-0.38	0.310	4.00	14.99	720519	1
Cadmium	w	71-78	14(14)	0.00	0.180	10.00	10.00	780824	1
Chromium	w	70-78	23(16)	0.00	0.120	10.00	10.00	780824	1
Copper	w	70-78	22(17)	0.00	0.120	10.00	19.99	711205	1
Lead	w	70-78	20(12)	0.14	0.280	10.00	40.99	750827	1
Mercury	w	70-78	21(18)	0.00	0.500	0.50	0.70	720519	1
Zinc	w	70-78	23(10)	-2.00	0.120	10.00	49.99	710801	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780824	1	2.00	2.00	0.00	NA	858
Cadmium	w	780824	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	780824	1	10.00	10.00	0.00	0.0572	NA
Copper	w	780824	1	10.00	10.00	0.00	0.0077	NA
Lead	w	780824	1	12.00	12.00	0.00	0.2451	NA
Mercury	w	780824	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	780824	1	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	North Fork Shenandoah	<u>Station</u> 1BNFS081.42
<u>R. Mile</u>	081.42	<u>Agency</u> VASWCB
<u>Location</u>	Route 617/953 Bridge W. of New Market, Shenandoah Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	79-83	2(0)	NA	NA	11.50	12.10	790806	1
Arsenic	w	71-82	10(10)	-0.38	0.310	2.50	5.00	720518	4
Beryllium	s	83-83	1(1)	NA	NA	2.20	2.20	830613	1
Cadmium	s	79-83	2(2)	NA	NA	0.23	0.24	790806	1
Cadmium	w	71-82	13(13)	0.00	0.180	10.00	10.00	780824	1
Chromium	w	70-82	23(18)	0.00	0.120	10.00	10.00	780824	1
Chromium	s	79-83	2(0)	NA	NA	16.15	19.30	830613	1
Copper	s	79-83	2(0)	NA	NA	18.45	24.50	790806	1
Copper	w	70-82	22(15)	0.00	0.400	10.00	29.99	700407	1
Lead	s	79-83	2(0)	NA	NA	35.90	36.90	830613	1
Lead	w	70-82	20(12)	-0.62	0.170	10.00	29.99	720214	1
Mercury	s	79-83	2(1)	NA	NA	0.20	0.26	790806	1
Mercury	w	70-82	21(20)	0.00	0.350	0.50	0.60	701117	1
Nickel	s	79-83	2(0)	NA	NA	14.90	20.20	830613	1
Nickel	w	82-82	1(1)	NA	NA	10.00	10.00	820712	1
Zinc	s	79-83	2(0)	NA	NA	65.35	82.50	830613	1
Zinc	w	70-82	23(11)	-1.83	0.020	10.00	29.99	710801	1
Aldrin	s	83-83	1(0)	NA	NA	0.01	0.01	830613	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	830613	1	10.90	10.90	0.00	NA	NA
Arsenic	w	820712	1	1.00	1.00	0.00	NA	429
Beryllium	s	830613	1	2.20	2.20	0.00	NA	NA
Cadmium	s	830613	1	0.22	0.22	0.00	NA	NA
Cadmium	w	820712	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	820712	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	830613	1	19.30	19.30	0.00	NA	NA
Copper	s	830613	1	12.40	12.40	0.00	NA	NA
Copper	w	820712	1	10.00	10.00	0.00	0.0077	NA
Lead	s	830613	1	36.90	36.90	0.00	NA	NA
Lead	w	820712	1	2.00	2.00	0.00	0.0409	NA
Mercury	s	830613	1	0.14	0.14	0.00	NA	NA
Mercury	w	820712	1	0.30	0.30	0.00	0.0043	NA
Nickel	e	830613	1	20.20	20.20	0.00	NA	NA
Nickel	w	820712	1	10.00	10.00	0.00	0.0286	NA
Zinc	s	830613	1	82.50	82.50	0.00	NA	NA
Zinc	w	820712	1	10.00	10.00	0.00	0.0014	NA
Aldrin	s	830613	1	0.01	0.01	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Smith Creek	<u>Station</u>	1BSMT018.40
<u>R. Mile</u>	018.40	<u>Agency</u>	VASWCB
<u>Location</u>	Route 798 Bridge, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-73	6(6)	NA	NA	5.00	5.00	720519	5
Cadmium	w	71-73	8(8)	-4.50	0.270	10.00	10.00	720801	7
Chromium	w	70-74	16(9)	0.00	0.500	10.00	49.99	720801	1
Copper	w	70-74	14(7)	0.00	0.270	10.00	19.99	720214	3
Lead	w	70-74	13(9)	0.00	0.500	10.00	99.99	701117	1
Mercury	w	70-74	14(12)	0.00	0.500	0.50	0.70	720801	1
Zinc	w	70-74	16(5)	0.00	0.500	10.00	19.99	730806	5

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730806	1	2.80	2.80	0.00	NA	1201
Cadmium	w	730806	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	740429	4	10.00	10.00	0.00	0.0572	NA
Copper	w	740429	4	10.00	10.00	0.00	0.0077	NA
Lead	w	740429	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740429	4	0.50	0.50	0.00	0.0071	NA
Zinc	w	740429	4	10.00	12.50	5.00	0.0014	NA

<u>River</u>	Smith Creek	<u>Station</u>	1BSMT010.90
<u>R. Mile</u>	010.90	<u>Agency</u>	VASWCB
<u>Location</u>	Route 211 Bridge, Shenandoah Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	9(8)	-0.38	0.310	3.00	14.99	720518	1
Cadmium	w	71-78	12(12)	0.00	0.180	10.00	10.00	780824	1
Chromium	w	70-78	22(17)	0.00	0.120	10.00	29.99	701117	1
Copper	w	70-78	21(15)	0.00	0.400	10.00	29.99	700407	1
Lead	w	70-78	19(9)	0.00	0.500	10.00	29.99	720518	1
Mercury	w	70-78	20(20)	0.00	0.350	0.50	0.50	760809	6
Zinc	w	70-78	22(6)	0.00	0.110	10.00	39.99	750827	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780824	1	2.00	2.00	0.00	NA	858
Cadmium	w	780824	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	780824	1	10.00	10.00	0.00	0.0572	NA
Copper	w	780824	1	10.00	10.00	0.00	0.0077	NA
Lead	w	780824	1	9.00	9.00	0.00	0.1839	NA
Mercury	w	780824	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	780824	1	20.00	20.00	0.00	0.0027	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	North Fork Shenandoah	<u>Station</u>	1BNFS076.56
<u>R. Mile</u>	076.56	<u>Agency</u>	VASWCBB
<u>Location</u>	Route 767 Bridge, Shenandoah Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-73	5(5)	NA	NA	5.00	5.00	720518	4
Cadmium	w	71-73	7(7)	-4.50	0.270	10.00	10.00	720801	6
Chromium	w	70-74	15(11)	0.00	0.500	10.00	10.00	740429	15
Copper	w	70-74	14(8)	0.00	0.270	10.00	19.99	711205	2
Lead	w	70-74	12(7)	5.00	0.270	10.00	19.99	730806	1
Mercury	w	70-74	13(13)	0.00	0.500	0.50	0.50	740429	13
Zinc	w	70-74	15(5)	-3.33	0.380	10.00	809.90	740429	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730806	1	1.00	1.00	0.00	NA	429
Cadmium	w	730806	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	740429	4	10.00	10.00	0.00	0.0572	NA
Copper	w	740429	4	10.00	10.00	0.00	0.0077	NA
Lead	w	740429	3	10.00	13.33	5.77	0.2043	NA
Mercury	w	740429	4	0.50	0.50	0.00	0.0071	NA
Zinc	w	740429	4	19.99	214.97	396.65	0.0027	NA

<u>River</u>	Stony Creek	<u>Station</u>	1BSTY006.81
<u>R. Mile</u>	006.81	<u>Agency</u>	VASWCB
<u>Location</u>	Route 675 Bridge, Shenandoah Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-78	7(6)	0.10	0.500	2.00	3.00	780112	2
Cadmium	w	73-78	9(9)	0.90	0.070	10.00	10.00	780802	1
Chromium	w	73-78	13(12)	0.00	0.190	10.00	10.00	780802	1
Copper	w	73-78	13(12)	0.00	0.190	10.00	10.00	780802	1
Lead	w	73-78	12(7)	0.60	0.370	9.50	11.00	780802	1
Mercury	w	73-78	13(13)	-0.02	0.500	0.50	0.50	780112	8
Zinc	w	73-78	13(9)	-6.99	0.370	10.00	39.99	730806	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780802	2	2.50	2.50	0.71	NA	1073
Cadmium	w	780802	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780802	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780802	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780802	2	6.50	6.50	6.36	0.1328	NA
Mercury	w	780802	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	780802	2	15.00	15.00	7.07	0.0020	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Stony Creek	<u>Station</u>	1BSTY001.22
<u>R. Mile</u>	001.22	<u>Agency</u>	VASWCB
<u>Location</u>	Route 11 Bridge, Shenandoah Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	83-83	1(0)	NA	NA	6.60	6.60	830613	1
Arsenic	w	73-82	8(7)	0.10	0.500	2.00	3.00	750822	1
Beryllium	s	83-83	1(1)	NA	NA	1.60	1.60	830613	1
Cadmium	s	83-83	1(1)	NA	NA	0.16	0.16	830613	1
Cadmium	w	73-82	10(10)	0.90	0.070	10.00	24.99	750417	1
Chromium	w	73-82	14(12)	0.00	0.190	10.00	10.00	780802	1
Chromium	s	83-83	1(0)	NA	NA	18.00	18.00	830613	1
Copper	s	83-83	1(0)	NA	NA	4.30	4.30	830613	1
Copper	w	73-82	13(12)	0.00	0.190	10.00	10.00	820712	2
Lead	s	83-83	1(0)	NA	NA	24.60	24.60	830613	1
Lead	w	73-82	13(7)	-0.20	0.500	8.00	11.99	760323	1
Mercury	s	83-83	1(1)	NA	NA	0.13	0.13	830613	1
Mercury	w	73-82	14(10)	-0.02	0.500	0.50	0.50	780112	8
Nickel	s	83-83	1(0)	NA	NA	12.10	12.10	830613	1
Nickel	w	82-82	1(1)	NA	NA	10.00	10.00	820712	1
Zinc	s	83-83	1(0)	NA	NA	45.90	45.90	830613	1
Zinc	w	73-82	14(10)	-9.99	0.150	10.00	59.99	730806	1
Aldrin	s	83-83	1(0)	NA	NA	0.01	0.01	830613	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	830613	1	6.60	6.60	0.00	NA	NA
Arsenic	w	820712	1	1.00	1.00	0.00	NA	429
Beryllium	s	830613	1	1.60	1.60	0.00	NA	NA
Cadmium	s	830613	1	0.16	0.16	0.00	NA	NA
Cadmium	w	820712	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	820712	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	830613	1	18.00	18.00	0.00	NA	NA
Copper	s	830613	1	4.30	4.30	0.00	NA	NA
Copper	w	820712	1	10.00	10.00	0.00	0.0077	NA
Lead	s	830613	1	24.60	24.60	0.00	NA	NA
Lead	w	820712	1	2.00	2.00	0.00	0.0409	NA
Mercury	s	830613	1	0.13	0.13	0.00	NA	NA
Mercury	w	820712	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	830613	1	12.10	12.10	0.00	NA	NA
Nickel	w	820712	1	10.00	10.00	0.00	0.0286	NA
Zinc	s	830613	1	45.90	45.90	0.00	NA	NA
Zinc	w	820712	1	10.00	10.00	0.00	0.0014	NA
Aldrin	s	830613	1	0.01	0.01	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	North Fork Shenandoah	<u>Station</u>	1BNFS072.78
<u>R. Mile</u>	072.78	<u>Agency</u>	VASWCB
<u>Location</u>	Route 11 Bridge, Shenandoah Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	76-78	4(3)	NA	NA	2.00	2000.00	760323	1
Cadmium	w	74-78	6(6)	NA	NA	10.00	10.00	780112	5
Chromium	w	74-78	7(7)	NA	NA	10.00	10.00	780112	7
Copper	w	74-78	7(7)	NA	NA	10.00	10.00	780112	7
Lead	w	74-78	7(5)	NA	NA	3.00	15.99	760323	1
Mercury	w	74-78	7(7)	NA	NA	0.50	0.50	780112	7
Zinc	w	74-78	7(5)	NA	NA	10.00	10.00	780112	7

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780112	2	2.00	2.00	0.00	NA	858
Cadmium	w	780112	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	780112	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780112	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780112	2	2.50	2.50	0.71	0.0511	NA
Mercury	w	780112	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	780112	2	10.00	10.00	0.00	0.0014	NA

<u>River</u>	North Fork Shenandoah	<u>Station</u>	1BNFS062.18
<u>R. Mile</u>	062.18	<u>Agency</u>	VASWCB
<u>Location</u>	Route 698 Bridge S. of Edingburg, Shenandoah Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(10)	-0.38	0.310	2.00	5.00	720518	4
Cadmium	w	71-78	15(15)	0.00	0.180	10.00	11.99	750417	1
Chromium	w	70-78	24(23)	0.00	0.120	10.00	19.99	700628	1
Copper	w	70-78	23(17)	0.00	0.300	10.00	19.99	720214	3
Lead	w	70-78	21(12)	-1.00	0.010	10.00	19.99	710414	2
Mercury	w	70-78	22(21)	0.00	0.230	0.50	0.80	701117	1
Zinc	w	70-78	24(13)	0.00	0.500	10.00	30.00	780802	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780802	2	2.00	2.00	0.00	NA	858
Cadmium	w	780802	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780802	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780802	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780802	2	3.00	3.00	1.41	0.0613	NA
Mercury	w	780802	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	780802	2	20.00	20.00	14.14	0.0027	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	North Fork Shenandoah	<u>Station</u> 1BNFS059.59
<u>R. Mile</u>	059.59	<u>Agency</u> VASWCB
<u>Location</u>	Route 675 Bridge E. of Edingsburg, Shenandoah Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(10)	-0.67	0.310	2.00	10.00	710801	1
Cadmium	w	71-78	15(15)	0.00	0.180	10.00	10.00	780802	1
Chromium	w	70-78	24(19)	0.00	0.120	10.00	10.00	780802	1
Copper	w	70-78	23(16)	0.00	0.300	10.00	29.99	700525	1
Lead	w	70-78	20(12)	-1.17	0.080	10.00	29.99	730111	1
Mercury	w	70-78	22(20)	0.00	0.230	0.50	7.80	700910	1
Zinc	w	70-78	24(12)	0.00	0.430	10.00	69.99	740429	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780802	2	2.00	2.00	0.00	NA	858
Cadmium	w	780802	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780802	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780802	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780802	2	3.00	3.00	0.00	0.0613	NA
Mercury	w	780802	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	780802	2	15.00	15.00	7.07	0.0020	NA

<u>River</u>	North Fork Shenandoah	<u>Station</u> 1BNFS043.06
<u>R. Mile</u>	043.06	<u>Agency</u> VASWCB
<u>Location</u>	Route 758 Bridge near Woodstock, Shenandoah Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	10(9)	-0.38	0.310	2.00	5.00	720518	2
Cadmium	w	71-78	15(15)	0.00	0.180	10.00	10.00	780802	2
Chromium	w	70-78	24(19)	0.00	0.060	10.00	19.99	700628	1
Copper	w	70-78	23(17)	0.00	0.420	10.00	29.99	700526	2
Lead	w	70-78	20(12)	0.00	0.320	10.00	39.99	720214	1
Mercury	w	70-78	22(21)	0.00	0.500	0.50	5.00	710414	1
Zinc	w	70-78	24(11)	0.00	0.500	10.00	90.00	780802	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780802	2	2.00	2.00	0.00	NA	858
Cadmium	w	780802	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780802	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780802	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780802	2	11.00	11.00	2.83	0.2247	NA
Mercury	w	780802	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	780802	2	50.00	50.00	56.57	0.0068	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	North Fork Shenandoah	<u>Station</u> 1BNFS037.89
<u>R. Mile</u>	037.89	<u>Agency</u> VASWCB
<u>Location</u>	Route 633 Bridge near Woodstock, Shenandoah Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(11)	-0.38	0.310	2.00	5.00	720518	4
Cadmium	w	71-78	15(15)	0.00	0.180	10.00	10.00	780802	1
Chromium	w	70-78	24(17)	0.00	0.400	10.00	29.99	700407	1
Copper	w	70-78	23(14)	0.00	0.400	10.00	19.99	720214	2
Lead	w	70-78	21(15)	-0.50	0.030	10.00	18.99	750417	1
Mercury	w	70-78	22(19)	0.00	0.430	0.50	1.30	720518	1
Zinc	w	70-78	24(15)	0.00	0.340	10.00	39.99	701117	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780802	2	2.00	2.00	0.00	NA	858
Cadmium	w	780802	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780802	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780802	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780802	2	2.00	2.00	1.41	0.0409	NA
Mercury	w	780802	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	780802	2	10.00	10.00	0.00	0.0014	NA

<u>River</u>	North Fork Shenandoah	<u>Station</u> 1BNFS012.98
<u>R. Mile</u>	012.98	<u>Agency</u> VASWCB
<u>Location</u>	Route 648 Bridge in Strasburg, Shenandoah Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	9(8)	-0.60	0.500	3.00	5.00	720518	4
Cadmium	w	71-78	13(13)	0.00	0.500	10.00	10.00	780112	11
Chromium	w	70-78	22(17)	0.00	0.500	10.00	10.00	780112	22
Copper	w	70-78	21(13)	0.00	0.070	10.00	19.99	700526	2
Lead	w	70-78	19(11)	-0.45	0.030	10.00	10.00	750123	14
Mercury	w	70-78	21(17)	0.00	0.130	0.50	1.30	720817	2
Zinc	w	70-78	22(10)	0.00	0.070	10.00	29.99	720214	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780112	2	2.50	2.50	0.71	NA	1073
Cadmium	w	780112	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	780112	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780112	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780112	2	1.50	1.50	0.71	0.0306	NA
Mercury	w	780112	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	780112	2	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	North Fork Shenandoah	<u>Station</u> 1BNFS010.34
<u>R. Mile</u>	010.34	<u>Agency</u> VASWCB
<u>Location</u>	Route 55 Bridge in Strasburg, Shenandoah Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	79-83	2(1)	NA	NA	30.70	50.00	790821	1
Arsenic	w	71-82	11(9)	-0.38	0.310	2.00	5.00	720518	4
Beryllium	s	83-83	1(1)	NA	NA	2.30	2.30	830608	1
Cadmium	s	79-83	2(2)	NA	NA	0.36	0.50	790821	1
Cadmium	w	71-82	15(15)	0.00	0.180	10.00	10.00	780802	1
Chromium	w	70-82	24(21)	0.00	0.250	10.00	99.99	780112	1
Chromium	s	79-83	2(0)	NA	NA	19.05	19.60	830608	1
Copper	s	79-83	2(0)	NA	NA	20.55	21.00	790821	1
Copper	w	70-82	23(17)	0.00	0.300	10.00	19.99	720214	3
Lead	s	79-83	2(0)	NA	NA	60.75	61.60	830608	1
Lead	w	70-82	21(12)	0.00	0.290	10.00	19.99	760323	2
Mercury	s	79-83	2(2)	NA	NA	0.20	0.20	830608	1
Mercury	w	70-82	22(21)	0.00	0.430	0.50	0.80	710414	1
Nickel	s	79-83	2(0)	NA	NA	22.55	25.10	830608	1
Nickel	w	82-82	1(1)	NA	NA	10.00	10.00	820701	1
Zinc	s	79-83	2(0)	NA	NA	65.30	70.70	830608	1
Zinc	w	70-82	48(22)	0.00	0.390	10.00	179.90	760621	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830608	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	830608	1	11.40	11.40	0.00	NA	NA
Arsenic	w	820701	1	1.00	1.00	0.00	NA	429
Beryllium	s	830608	1	2.30	2.30	0.00	NA	NA
Cadmium	s	830608	1	0.23	0.23	0.00	NA	NA
Cadmium	w	820701	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	820701	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	830608	1	19.60	19.60	0.00	NA	NA
Copper	s	830608	1	20.10	20.10	0.00	NA	NA
Copper	w	820701	1	10.00	10.00	0.00	0.0077	NA
Lead	s	830608	1	61.60	61.60	0.00	NA	NA
Lead	w	820701	1	2.00	2.00	0.00	0.0409	NA
Mercury	s	830608	1	0.20	0.20	0.00	NA	NA
Mercury	w	820701	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	830608	1	25.10	25.10	0.00	NA	NA
Nickel	w	820701	1	10.00	10.00	0.00	0.0286	NA
Zinc	s	830608	1	70.70	70.70	0.00	NA	NA
Zinc	w	820701	1	10.00	10.00	0.00	0.0014	NA
Aldrin	s	830608	1	0.02	0.02	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	North Fork Shenandoah River	<u>Station</u>	01634000
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Near Strasburg, Warren Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	72-76	2(0)	NA	NA	12.00	16.00	720516	1
Arsenic	w	76-76	2(1)	NA	NA	7.00	13.00	760426	1
Cadmium	s	72-72	1(0)	NA	NA	0.27	0.27	720516	1
Cadmium	w	76-76	3(0)	NA	NA	11.00	15.00	760426	1
Chromium	w	76-76	3(1)	NA	NA	20.00	40.00	760505	1
Chromium	s	72-76	2(0)	NA	NA	5.26	10.00	760831	1
Copper	s	72-72	1(0)	NA	NA	1.40	1.40	720516	1
Copper	w	76-76	2(0)	NA	NA	260.00	420.00	760505	1
Lead	s	72-76	2(0)	NA	NA	17.15	30.00	760831	1
Lead	w	76-76	3(0)	NA	NA	54.00	70.00	760426	1
Mercury	s	72-72	1(0)	NA	NA	0.01	0.01	720516	1
Mercury	w	76-76	1(1)	NA	NA	0.50	0.50	760831	1
Nickel	s	72-76	2(0)	NA	NA	10.50	20.00	760831	1
Selenium	w	76-76	2(1)	NA	NA	4.50	8.00	760426	1
Silver	w	76-76	2(0)	NA	NA	6.00	8.00	760505	1
Zinc	s	72-76	2(0)	NA	NA	27.50	40.00	760831	1
Zinc	w	76-76	3(1)	NA	NA	160.00	600.00	760505	1
Cyanide	w	76-76	2(0)	NA	NA	0.03	0.04	760426	1
Dieldrin	s	72-72	1(0)	NA	NA	0.10	0.10	720516	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Data	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	760831	1	8.00	8.00	0.00	NA	NA
Arsenic	w	760831	2	7.00	7.00	8.49	NA	3003
Cadmium	s	720516	1	0.27	0.27	0.00	NA	NA
Cadmium	w	760831	3	11.00	9.33	6.66	1.0848	NA
Chromium	w	760831	3	20.00	26.67	11.55	0.1144	NA
Chromium	s	760831	1	10.00	10.00	0.00	NA	NA
Copper	s	720516	1	1.40	1.40	0.00	NA	NA
Copper	w	760505	2	260.00	260.00	226.27	0.2010	NA
Lead	s	760831	1	30.00	30.00	0.00	NA	NA
Lead	w	760831	3	54.00	56.00	13.11	1.1031	NA
Mercury	s	720516	1	0.01	0.01	0.00	NA	NA
Mercury	w	760831	1	0.50	0.50	0.00	0.0072	NA
Nickel	s	760831	1	20.00	20.00	0.00	NA	NA
Selenium	w	760831	2	4.50	4.50	4.95	0.0429	NA
Silver	w	760505	2	6.00	6.00	2.83	0.0572	NA
Zinc	s	760831	1	40.00	40.00	0.00	NA	NA
Zinc	w	760831	3	160.00	260.00	302.65	0.0218	NA
Cyanide	w	760505	2	0.03	0.03	0.01	NA	NA
Dieldrin	s	720516	1	0.10	0.10	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Cedar Creek	<u>Station</u>	1BCDR013.29
<u>R. Mile</u>	013.29	<u>Agency</u>	VASWCB
<u>Location</u>	Route 628 Bridge, Shenandoah Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	81-86	11(8)	NA	NA	3.50	10.00	850813	1
Arsenic	s	79-85	3(1)	NA	NA	13.50	46.00	790821	1
Arsenic	w	75-85	22(19)	-0.22	0.020	1.00	4.00	801202	1
Beryllium	s	83-85	2(2)	NA	NA	4.30	6.80	850529	1
Cadmium	f	83-86	9(9)	NA	NA	0.10	0.21	860716	2
Cadmium-dwt	f	79-85	10(4)	NA	NA	0.34	0.41	830727	1
Cadmium	s	79-85	3(2)	NA	NA	0.46	0.70	850529	1
Cadmium	w	74-85	24(22)	0.00	0.040	10.00	10.00	810309	15
Chromium	w	74-85	25(21)	0.00	0.020	10.00	10.00	810309	15
Chromium	f	83-86	9(0)	NA	NA	0.40	1.70	830727	1
Chromium-dwt	f	79-85	10(0)	NA	NA	1.20	6.20	830727	1
Chromium	s	79-85	3(0)	NA	NA	12.30	15.80	830627	1
Copper	f	83-86	9(0)	NA	NA	1.00	2.00	850813	1
Copper-dwt	f	79-85	10(0)	NA	NA	0.00	6.80	810804	1
Copper	s	79-85	3(0)	NA	NA	9.90	13.20	790821	1
Copper	w	74-85	25(23)	0.00	0.020	10.00	10.00	850529	17
Lead	f	83-86	9(8)	NA	NA	1.00	2.10	860716	3
Lead-dwt	f	79-85	10(7)	NA	NA	3.80	4.30	830727	1
Lead	s	79-85	3(0)	NA	NA	27.40	29.40	830627	1
Lead	w	74-85	25(14)	-0.50	0.170	3.00	14.00	791101	1
Mercury	f	79-86	13(6)	0.00	0.500	0.09	0.16	850813	1
Mercury	s	79-85	3(3)	NA	NA	0.15	0.24	830627	1
Mercury	w	74-85	25(25)	-0.03	0.020	0.30	0.50	780112	8
Nickel	s	79-85	3(0)	NA	NA	22.10	22.80	790821	1
Nickel	w	79-85	17(14)	35.00	0.270	10.00	100.00	810309	4
Zinc	f	86-86	3(0)	NA	NA	12.40	20.30	860716	1
Zinc	s	79-85	3(0)	NA	NA	51.50	63.90	790821	1
Zinc	w	74-85	25(13)	0.00	0.160	10.00	80.00	800401	1
Aldrin	f	79-86	13(13)	-0.13	0.500	0.10	1.00	830727	3
Alpha BHC	f	79-86	13(13)	-0.13	0.500	0.10	1.00	830727	3
Gamma BHC(Lindane)	f	79-86	13(13)	-0.13	0.500	0.10	1.00	830727	3
Lindane(organisms)	f	79-85	10(10)	NA	NA	0.25	1.00	830727	3
Chlordane	f	79-86	13(13)	0.00	0.500	0.50	1.00	860716	6
Dieldrin	f	79-86	13(13)	-0.13	0.500	0.10	1.00	830727	3
Endrin	f	79-86	13(13)	-0.13	0.500	0.10	1.00	830727	3
Heptachlor Epoxide	f	86-86	3(3)	NA	NA	0.10	0.10	860716	3
Heptachlor	f	86-86	3(3)	NA	NA	0.10	0.10	860716	3
Hexachlorobenzene	f	79-86	13(13)	-0.13	0.500	0.10	1.00	830727	3
PCB-1254	f	86-86	3(3)	NA	NA	1.00	1.00	860716	3
PCB1260	f	86-86	3(3)	NA	NA	1.00	1.00	860716	3
PCB's	f	79-86	13(11)	0.00	0.500	0.70	2.30	830727	1
P,P'DDD	f	79-85	10(10)	NA	NA	0.25	1.00	830727	3
P,P'DDE	f	79-85	10(7)	NA	NA	0.50	1.00	830727	3
P,P'DDT	f	79-85	10(10)	NA	NA	0.25	1.00	830727	3
Pentachlorophenol	f	79-85	10(10)	NA	NA	0.25	1.00	830727	3
Toxaphene	f	86-86	3(3)	NA	NA	1.00	1.00	860716	3

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

Station 1BCDR013.29 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	860716	6	4.80	4.92	5.17	NA	6693
Arsenic	s	850529	1	13.50	13.50	0.00	NA	NA
Arsenic	w	850529	1	1.00	1.00	0.00	NA	429
Beryllium	s	850529	1	6.80	6.80	0.00	NA	NA
Cadmium	f	860716	6	0.15	0.15	0.06	0.0481	NA
Cadmium-dwt	f	850813	3	0.40	0.40	0.00	NA	NA
Cadmium	s	850529	1	0.70	0.70	0.00	NA	NA
Cadmium	w	850529	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	850529	1	3.00	3.00	0.00	0.0172	NA
Chromium	f	860716	6	0.52	0.63	0.45	NA	NA
Chromium-dwt	f	850813	3	1.20	1.10	0.66	NA	NA
Chromium	s	850529	1	5.40	5.40	0.00	NA	NA
Copper	f	860716	6	0.70	0.82	0.70	0.0018	NA
Copper-dwt	f	850813	3	0.00	0.00	0.00	NA	NA
Copper	s	850529	1	4.70	4.70	0.00	NA	NA
Copper	w	850529	1	10.00	10.00	0.00	0.0077	NA
Lead	f	860716	6	1.55	1.55	0.60	0.1029	NA
Lead-dwt	f	850813	3	4.00	4.00	0.00	NA	NA
Lead	s	850529	1	13.50	13.50	0.00	NA	NA
Lead	w	850529	1	1.00	1.00	0.00	0.0204	NA
Mercury	f	860716	6	0.07	0.08	0.05	0.0030	NA
Mercury	s	850529	1	0.15	0.15	0.00	NA	NA
Mercury	w	850529	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	850529	1	6.80	6.80	0.00	NA	NA
Nickel	w	850529	1	10.00	10.00	0.00	0.0286	NA
Zinc	f	860716	3	12.40	13.77	5.97	0.0055	NA
Zinc	s	850529	1	29.70	29.70	0.00	NA	NA
Zinc	w	850529	1	10.00	10.00	0.00	0.0014	NA
Aldrin	f	860716	6	0.06	0.06	0.05	0.1703	58
Alpha BHC	f	860716	6	0.06	0.06	0.05	NA	56
Gamma BHC(Lindane)	f	860716	6	0.06	0.06	0.05	0.0186	7
Lindane(organisms)	f	850813	3	0.01	0.01	0.00	NA	NA
Chlordane	f	860716	6	0.50	0.50	0.54	0.9383	76
Dieldrin	f	860716	6	0.06	0.06	0.05	NA	153
Endrin	f	860716	6	0.06	0.06	0.05	NA	NA
Heptachlor Epoxide	f	860716	3	0.10	0.10	0.00	0.3097	24
Heptachlor	f	860716	3	0.10	0.10	0.00	NA	32
Hexachlorobenzene	f	860716	6	0.06	0.06	0.05	NA	9
PCB-1254	f	860716	3	1.00	1.00	0.00	NA	403
PCB1260	f	860716	3	1.00	1.00	0.00	NA	403
PCB's	f	860716	6	0.50	0.50	0.54	NA	204
P,P'DDD	f	850813	3	0.01	0.01	0.00	NA	NA
P,P'DDE	f	850813	3	0.17	0.28	0.21	NA	NA
P,P'DDT	f	850813	3	0.01	0.01	0.00	NA	NA
Pentachlorophenol	f	850813	3	0.01	0.01	0.00	NA	NA
Toxaphene	f	860716	3	1.00	1.00	0.00	NA	102

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Cedar Creek	<u>Station</u> 1BCDR002.84
<u>R. Mile</u>	002.84	<u>Agency</u> VASWCB
<u>Location</u>	Route 11 Bridge, Shenandoah Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-78	6(6)	0.20	0.270	2.00	2.00	780802	5
Cadmium	w	73-78	8(7)	1.80	0.150	10.00	24.99	750417	1
Chromium	w	73-78	12(11)	0.00	0.270	10.00	10.00	780802	1
Copper	w	73-78	12(9)	0.00	0.270	10.00	10.00	780802	1
Lead	w	73-78	11(7)	1.00	0.500	10.00	15.00	780802	1
Mercury	w	73-78	12(10)	-0.26	0.150	0.50	1.60	730806	1
Zinc	w	73-78	12(10)	-4.00	0.500	10.00	29.99	730806	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Data	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780802	2	2.00	2.00	0.00	NA	858
Cadmium	w	780802	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780802	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780802	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780802	2	8.50	8.50	9.19	0.1736	NA
Mercury	w	780802	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	780802	2	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Passage Creek	<u>Station</u>	1BPSG001.36
<u>R. Mile</u>	001.36	<u>Agency</u>	VASWCB
<u>Location</u>	Route 55 Bridge, Warren Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	79-83	2(1)	NA	NA	24.05	43.00	790821	1
Arsenic	w	75-82	5(5)	-0.33	0.270	2.00	3.00	750828	1
Beryllium	s	83-83	1(1)	NA	NA	1.70	1.70	830608	1
Cadmium	s	79-83	2(2)	NA	NA	0.30	0.43	790821	1
Cadmium	w	74-82	7(7)	0.00	0.270	10.00	11.99	750417	1
Chromium	w	74-82	8(8)	0.00	0.270	10.00	10.00	780802	1
Chromium	s	79-83	2(0)	NA	NA	12.85	15.00	790821	1
Copper	s	79-83	2(0)	NA	NA	11.90	14.10	790821	1
Copper	w	74-82	8(8)	0.00	0.270	10.00	10.00	820701	2
Lead	s	79-83	2(0)	NA	NA	92.35	129.00	830608	1
Lead	w	74-82	8(4)	2.00	0.500	7.00	20.99	760823	1
Mercury	s	79-83	2(2)	NA	NA	0.17	0.20	830608	1
Mercury	w	74-82	8(8)	-0.07	0.270	0.50	0.50	760823	6
Nickel	s	79-83	2(0)	NA	NA	15.55	17.10	790821	1
Nickel	w	82-82	1(1)	NA	NA	10.00	10.00	820701	1
Zinc	s	79-83	2(0)	NA	NA	51.65	55.70	790821	1
Zinc	w	74-82	8(4)	3.33	0.150	10.00	29.99	741023	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830608	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	830608	1	5.10	5.10	0.00	NA	NA
Arsenic	w	820701	1	1.00	1.00	0.00	NA	429
Beryllium	s	830608	1	1.70	1.70	0.00	NA	NA
Cadmium	s	830608	1	0.17	0.17	0.00	NA	NA
Cadmium	w	820701	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	820701	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	830608	1	10.70	10.70	0.00	NA	NA
Copper	s	830608	1	9.70	9.70	0.00	NA	NA
Copper	w	820701	1	10.00	10.00	0.00	0.0077	NA
Lead	s	830608	1	129.00	129.00	0.00	NA	NA
Lead	w	820701	1	2.00	2.00	0.00	0.0409	NA
Mercury	s	830608	1	0.20	0.20	0.00	NA	NA
Mercury	w	820701	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	830608	1	14.00	14.00	0.00	NA	NA
Nickel	w	820701	1	10.00	10.00	0.00	0.0286	NA
Zinc	s	830608	1	47.60	47.60	0.00	NA	NA
Zinc	w	820701	1	10.00	10.00	0.00	0.0014	NA
Aldrin	s	830608	1	0.02	0.02	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	North Fork Shenandoah	<u>Station</u> 1BNFS000.69
<u>R. Mile</u>	000.69	<u>Agency</u> VASWCB
<u>Location</u>	Route 340/522 Bridge at Front Royal, Warren Co., VA.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	83-85	6(3)	NA	NA	8.50	9.90	850814	1
Arsenic	s	79-85	3(1)	NA	NA	23.20	39.00	790821	1
Arsenic	w	71-85	28(24)	-0.33	0.020	2.00	5.00	801202	1
Beryllium	s	83-85	2(2)	NA	NA	4.90	7.70	850529	1
Cadmium	f	83-85	6(6)	NA	NA	0.10	0.10	850814	6
Cadmium-dwt	f	79-85	8(2)	NA	NA	0.28	0.40	850814	1
Cadmium	s	79-85	3(2)	NA	NA	0.39	0.80	850529	1
Cadmium	w	71-85	32(30)	0.00	0.240	10.00	10.00	810309	16
Chromium	w	70-85	40(33)	0.00	0.110	10.00	19.99	701116	1
Chromium	f	83-85	6(0)	NA	NA	0.25	0.50	830728	1
Chromium-dwt	f	79-85	8(0)	NA	NA	0.74	1.30	830728	1
Chromium	s	79-85	3(0)	NA	NA	21.60	25.10	830627	1
Copper	f	83-85	6(0)	NA	NA	1.55	2.40	850814	1
Copper-dwt	f	79-85	8(0)	NA	NA	0.00	4.67	790726	1
Copper	s	79-85	3(0)	NA	NA	20.10	20.30	830627	1
Copper	w	70-85	40(31)	0.00	0.000	10.00	20.00	780518	1
Lead	f	83-85	6(3)	NA	NA	1.00	2.10	830728	1
Lead-dwt	f	79-85	8(4)	NA	NA	3.00	7.50	830728	1
Lead	s	79-85	3(0)	NA	NA	47.20	48.10	830627	1
Lead	w	70-85	38(23)	-0.80	0.000	9.50	19.99	720214	1
Mercury	f	79-85	8(2)	NA	NA	0.13	0.18	850814	1
Mercury	s	79-85	3(3)	NA	NA	0.17	0.24	830627	1
Mercury	w	70-85	39(35)	-0.02	0.010	0.50	0.90	730517	1
Nickel	s	79-85	3(0)	NA	NA	30.90	33.40	830627	1
Nickel	w	79-85	11(10)	NA	NA	10.00	100.00	810309	2
Zinc	s	79-85	3(0)	NA	NA	75.00	81.40	830627	1
Zinc	w	70-85	66(27)	0.00	0.030	10.00	240.00	790918	1
Aldrin	f	79-85	8(8)	NA	NA	0.01	1.00	790726	2
Alpha BHC	f	79-85	8(8)	NA	NA	0.01	1.00	790726	2
Gamma BHC(Lindane)	f	79-85	8(8)	NA	NA	0.01	1.00	790726	2
Lindane(organisms)	f	79-85	8(8)	NA	NA	0.01	1.00	790726	2
Chlordane	f	79-85	8(8)	NA	NA	0.01	1.00	790726	2
Dieldrin	f	79-85	8(8)	NA	NA	0.01	1.00	790726	2
Endrin	f	79-85	8(8)	NA	NA	0.01	1.00	790726	2
Hexachlorobenzene	f	79-85	8(8)	NA	NA	0.01	1.00	790726	2
PCB's	f	79-85	8(8)	NA	NA	0.01	1.00	790726	2
P,P'DDD	f	79-85	8(8)	NA	NA	0.01	1.00	790726	2
P,P'DDE	f	79-85	8(6)	NA	NA	0.05	1.00	790726	2
P,P'DDT	f	79-85	8(8)	NA	NA	0.01	1.00	790726	2
Pentachlorophenol	f	79-85	8(8)	NA	NA	0.01	1.00	790726	2

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

Station 1BNFS000.69

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	850814	3	9.60	9.53	0.40	NA	13371
Arsenic	s	850529	1	23.20	23.20	0.00	NA	NA
Arsenic	w	850529	1	1.00	1.00	0.00	NA	429
Beryllium	s	850529	1	7.70	7.70	0.00	NA	NA
Cadmium	f	850814	3	0.10	0.10	0.00	0.0320	NA
Cadmium-dwt	f	850814	3	0.30	0.33	0.06	NA	NA
Cadmium	s	850529	1	0.80	0.80	0.00	NA	NA
Cadmium	w	850529	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	850529	1	1.00	1.00	0.00	0.0057	NA
Chromium	f	850814	3	0.20	0.23	0.06	NA	NA
Chromium-dwt	f	850814	3	0.60	0.80	0.35	NA	NA
Chromium	s	850529	1	21.60	21.60	0.00	NA	NA
Copper	f	850814	3	1.70	1.67	0.75	0.0043	NA
Copper-dwt	f	850814	3	0.00	0.00	0.00	NA	NA
Copper	s	850529	1	20.10	20.10	0.00	NA	NA
Copper	w	850529	1	10.00	10.00	0.00	0.0077	NA
Lead	f	850814	3	1.00	1.00	0.00	0.0664	NA
Lead-dwt	f	850814	3	3.00	3.33	0.58	NA	NA
Lead	s	850529	1	15.50	15.50	0.00	NA	NA
Lead	w	850529	1	1.00	1.00	0.00	0.0204	NA
Mercury	f	850814	3	0.17	0.17	0.01	0.0079	NA
Mercury	s	850529	1	0.17	0.17	0.00	NA	NA
Mercury	w	850529	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	850529	1	30.90	30.90	0.00	NA	NA
Nickel	w	850529	1	10.00	10.00	0.00	0.0286	NA
Zinc	s	850529	1	75.00	75.00	0.00	NA	NA
Zinc	w	850529	1	10.00	10.00	0.00	0.0014	NA
Aldrin	f	850814	3	0.01	0.01	0.00	0.0310	11
Alpha BHC	f	850814	3	0.01	0.01	0.00	NA	10
Gamma BHC(Lindane)	f	850814	3	0.01	0.01	0.00	0.0031	1
Lindane(organisms)	f	850814	3	0.01	0.01	0.00	NA	NA
Chlordane	f	850814	3	0.01	0.01	0.00	0.0186	1
Dieldrin	f	850814	3	0.01	0.01	0.00	NA	28
Endrin	f	850814	3	0.01	0.01	0.00	NA	NA
Hexachlorobenzene	f	850814	3	0.01	0.01	0.00	NA	2
PCB's	f	850814	3	0.01	0.01	0.00	NA	4
P,P'DDD	f	850814	3	0.01	0.01	0.00	NA	NA
P,P'DDE	f	850814	3	0.09	0.07	0.05	NA	NA
P,P'DDT	f	850814	3	0.01	0.01	0.00	NA	NA
Pentachlorophenol	f	850814	3	0.01	0.01	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Muddy Creek	<u>Station</u>	1BMDD001.65
<u>R. Mile</u>	001.65	<u>Agency</u>	VASWCB
<u>Location</u>	Route 734 Bridge, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(11)	-0.33	0.270	3.00	5.00	720502	5
Cadmium	w	71-78	15(14)	0.00	0.130	10.00	10.00	780803	1
Chromium	w	70-78	24(20)	0.00	0.110	10.00	29.99	700628	1
Copper	w	70-78	23(16)	0.00	0.340	10.00	29.99	710418	1
Lead	w	70-78	22(15)	-1.08	0.090	10.00	69.99	720502	1
Mercury	w	70-78	23(23)	0.00	0.260	0.50	0.50	770808	7
Zinc	w	70-78	23(14)	0.00	0.430	10.00	99.99	750808	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780803	2	2.00	2.00	0.00	NA	858
Cadmium	w	780803	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780803	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780803	2	15.00	15.00	7.07	0.0116	NA
Lead	w	780803	2	2.50	2.50	0.71	0.0511	NA
Mercury	w	780803	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	780803	1	10.00	10.00	0.00	0.0014	NA

<u>River</u>	North River	<u>Station</u>	1BNTH020.40
<u>R. Mile</u>	020.40	<u>Agency</u>	VASWCB
<u>Location</u>	Route 42 Bridge at Bridgewater, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	9(9)	-0.38	0.070	3.00	5.00	720502	4
Cadmium	w	71-78	13(12)	0.00	0.180	10.00	10.00	780803	1
Chromium	w	70-78	23(17)	0.00	0.500	10.00	29.99	700525	1
Copper	w	70-78	22(15)	0.00	0.410	10.00	19.99	720502	3
Lead	w	70-78	20(10)	-0.69	0.170	10.00	11.99	750411	1
Mercury	w	70-78	21(20)	0.00	0.350	0.50	1.30	700909	1
Zinc	w	70-78	22(13)	0.00	0.340	10.00	19.99	750808	6

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780803	2	2.00	2.00	0.00	NA	858
Cadmium	w	780803	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780803	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780803	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780803	2	5.50	5.50	0.71	0.1124	NA
Mercury	w	780803	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	780803	1	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	North River	<u>Station</u>	01621315
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Hwy 42 at Bridgewater, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	72-72	2(1)	NA	NA	14.00	20.00	721213	1
Phenols	w	72-73	2(0)	NA	NA	3.00	4.00	730313	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	721213	2	14.00	14.00	8.49	0.0801	NA
Phenols	w	730313	2	3.00	3.00	1.41	0.0009	NA

<u>River</u>	Blacks Run	<u>Station</u>	1BBLK006.04
<u>R. Mile</u>	006.04	<u>Agency</u>	VASWCB
<u>Location</u>	Route 726 Bridge S. of Harrisonburg, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	10(10)	-0.33	0.270	2.50	5.00	720519	4
Cadmium	w	71-78	13(13)	0.00	0.090	10.00	10.00	780803	1
Chromium	w	70-78	22(17)	0.00	0.120	10.00	10.00	780803	1
Copper	w	70-80	50(37)	0.00	0.060	10.00	29.99	700525	1
Lead	w	70-80	48(20)	-0.89	0.070	10.00	59.99	721005	1
Mercury	w	70-78	22(21)	0.00	0.500	0.50	0.65	700909	1
Zinc	w	70-80	49(19)	0.00	0.360	10.00	59.99	721005	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780803	2	2.00	2.00	0.00	NA	858
Cadmium	w	780803	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780803	2	10.00	10.00	0.00	0.0572	NA
Copper	w	801007	21	10.00	11.43	3.59	0.0077	NA
Lead	w	801007	21	4.00	10.76	14.43	0.0817	NA
Mercury	w	780803	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	801007	21	20.00	17.14	7.84	0.0027	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Blacks Run	<u>Station</u> 1BBLK003.86
<u>R. Mile</u>	003.86	<u>Agency</u> VASWCB
<u>Location</u>	Route 679 Bridge, Rockingham Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-77	7(7)	-0.50	0.150	3.00	5.00	720519	3
Cadmium	w	71-77	11(11)	0.00	0.500	10.00	10.00	770808	10
Chromium	w	70-77	21(13)	0.00	0.270	10.00	19.99	700628	2
Copper	w	70-77	20(11)	0.00	0.100	10.00	39.99	700525	1
Lead	w	70-77	18(6)	-0.08	0.500	10.00	199.90	721005	1
Mercury	w	70-77	18(18)	0.00	0.120	0.50	0.50	770808	6
Zinc	w	68-76	21(4)	0.00	0.500	29.99	99.99	721005	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770808	1	2.00	2.00	0.00	NA	858
Cadmium	w	770808	1	10.00	10.00	0.00	0.9861	NA
Chromium	w	770808	1	10.00	10.00	0.00	0.0572	NA
Copper	w	770808	1	10.00	10.00	0.00	0.0077	NA
Lead	w	770808	1	9.00	9.00	0.00	0.1839	NA
Mercury	w	770808	1	0.50	0.50	0.00	0.0072	NA
Zinc	w	760324	3	29.99	26.66	15.27	0.0041	NA

<u>River</u>	Blacks Run	<u>Station</u> 1BBLK002.10
<u>R. Mile</u>	002.10	<u>Agency</u> VASWCB
<u>Location</u>	Route 988 Bridge, Rockingham Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-77	9(9)	-0.38	0.160	5.00	29.99	750808	1
Cadmium	w	71-77	12(12)	0.00	0.360	10.00	10.00	770808	11
Chromium	w	70-77	22(13)	0.00	0.270	10.00	29.99	700628	1
Copper	w	70-77	21(14)	-0.83	0.030	10.00	39.99	701119	2
Lead	w	70-77	19(8)	-0.33	0.070	10.00	59.99	701119	1
Mercury	w	70-77	21(20)	0.00	0.070	0.50	1.10	701119	1
Zinc	w	70-76	21(2)	-5.50	0.230	19.99	79.99	701119	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770808	1	2.00	2.00	0.00	NA	858
Cadmium	w	770808	1	10.00	10.00	0.00	0.9861	NA
Chromium	w	770808	1	10.00	10.00	0.00	0.0572	NA
Copper	w	770808	1	10.00	10.00	0.00	0.0077	NA
Lead	w	770808	1	8.00	8.00	0.00	0.1634	NA
Mercury	w	770808	1	0.50	0.50	0.00	0.0072	NA
Zinc	w	760802	3	19.99	26.66	11.55	0.0027	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Blacks Run	<u>Station</u>	1BBLK000.57
<u>R. Mile</u>	000.57	<u>Agency</u>	VASWCB
<u>Location</u>	Route 704 Bridge, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	9(9)	-0.27	0.080	2.80	29.99	750808	1
Cadmium	w	71-78	12(12)	0.00	0.130	10.00	10.00	780803	1
Chromium	w	70-78	23(15)	0.00	0.340	10.00	29.99	700628	1
Copper	w	70-78	22(14)	0.00	0.500	10.00	39.99	701119	1
Lead	w	70-78	20(8)	1.33	0.010	11.49	39.99	701119	1
Mercury	w	70-78	21(20)	0.00	0.500	0.50	0.70	701119	1
Zinc	w	70-78	22(5)	0.00	0.500	10.00	99.99	720519	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780803	2	2.00	2.00	0.00	NA	858
Cadmium	w	780803	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780803	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780803	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780803	2	18.00	18.00	0.01	0.3676	NA
Mercury	w	780803	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	780803	1	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Cooks Creek	<u>Station</u>	1BCKS007.12
<u>R. Mile</u>	007.12	<u>Agency</u>	VASWCB
<u>Location</u>	Route 701 Bridge at Dayton, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(11)	-0.33	0.040	3.00	5.00	720502	5
Cadmium	w	71-78	15(14)	0.00	0.130	10.00	10.00	780803	1
Chromium	w	70-78	24(18)	0.00	0.110	10.00	19.99	700628	1
Copper	w	70-80	51(37)	0.00	0.000	10.00	29.99	710418	1
Lead	w	70-80	50(24)	-0.66	0.070	8.00	39.00	791120	1
Mercury	w	70-78	23(23)	0.00	0.260	0.50	0.50	770808	7
Zinc	w	70-80	51(27)	0.00	0.250	10.00	99.99	750808	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780803	2	2.00	2.00	0.00	NA	858
Cadmium	w	780803	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780803	2	10.00	10.00	0.00	0.0572	NA
Copper	w	801007	21	10.00	11.43	3.59	0.0077	NA
Lead	w	801007	21	3.00	8.00	10.58	0.0613	NA
Mercury	w	780803	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	801007	21	10.00	17.14	10.56	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Cooks Creek	<u>Station</u>	1BCKS005.10
<u>R. Mile</u>	005.10	<u>Agency</u>	VASWCB
<u>Location</u>	Route 704 Bridge, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	9(9)	-0.38	0.070	3.00	5.00	720502	4
Cadmium	w	71-78	13(12)	0.00	0.180	10.00	10.00	780803	1
Chromium	w	70-78	23(18)	0.00	0.400	10.00	29.99	700628	1
Copper	w	70-80	51(37)	0.00	0.000	10.00	30.00	790829	1
Lead	w	70-80	49(21)	-0.60	0.020	9.00	62.99	760324	1
Mercury	w	70-78	21(20)	0.00	0.350	0.50	0.60	700909	1
Zinc	w	70-80	52(25)	0.00	0.130	10.00	80.00	791031	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780803	1	2.00	2.00	0.00	NA	858
Cadmium	w	780803	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	780803	1	10.00	10.00	0.00	0.0572	NA
Copper	w	801007	22	10.00	11.36	3.51	0.0077	NA
Lead	w	801007	22	2.50	5.09	4.70	0.0511	NA
Mercury	w	780803	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	801007	22	10.00	20.00	16.90	0.0014	NA

<u>River</u>	Cooks Creek	<u>Station</u>	1BCKS003.10
<u>R. Mile</u>	003.10	<u>Agency</u>	32VASWCB
<u>Location</u>	Route 11 Bridge, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	9(9)	-0.33	0.040	2.80	5.00	720519	3
Cadmium	w	71-78	13(13)	0.00	0.090	10.00	10.00	780803	1
Chromium	w	70-78	22(16)	0.00	0.120	10.00	10.00	780803	1
Copper	w	70-80	51(38)	0.00	0.080	10.00	40.00	800826	1
Lead	w	70-80	48(25)	-0.68	0.100	6.00	29.99	750411	2
Mercury	w	70-78	21(21)	0.00	0.500	0.50	0.50	770808	7
Zinc	w	70-80	50(23)	0.00	0.060	10.00	60.00	791120	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780803	2	2.00	2.00	0.00	NA	858
Cadmium	w	780803	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780803	2	10.00	10.00	0.00	0.0572	NA
Copper	w	801007	22	10.00	12.27	6.85	0.0077	NA
Lead	w	801007	22	2.00	5.27	6.20	0.0409	NA
Mercury	w	780803	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	801007	22	10.00	20.00	15.74	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	North River	<u>Station</u>	01621360
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Hwy 11 near Mt. Crawford, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	72-73	2(1)	NA	NA	20.00	20.00	730910	2
Phenols	w	72-73	2(0)	NA	NA	2.50	3.00	721213	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	730910	2	20.00	20.00	0.00	0.1144	NA
Phenols	w	730313	2	2.50	2.50	0.71	0.0007	NA

<u>River</u>	Cooks Creek	<u>Station</u>	1BCKS001.03
<u>R. Mile</u>	001.03	<u>Agency</u>	VASWCB
<u>Location</u>	Route 867 Bridge at Mt. Crawford, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	10(9)	-0.33	0.270	2.50	5.00	720502	4
Cadmium	w	71-78	14(13)	0.00	0.130	10.00	10.00	780803	1
Chromium	w	70-78	23(17)	0.00	0.120	10.00	19.99	730514	2
Copper	w	70-80	52(40)	0.00	0.010	10.00	29.99	700408	1
Lead	w	70-80	49(23)	-0.93	0.010	9.00	51.00	791120	1
Mercury	w	70-78	22(22)	0.00	0.260	0.50	0.50	770808	7
Zinc	w	70-80	51(25)	0.00	0.150	10.00	70.00	800923	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780803	2	2.00	2.00	0.00	NA	858
Cadmium	w	780803	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780803	2	10.00	10.00	0.00	0.0572	NA
Copper	w	801007	22	10.00	10.91	2.94	0.0077	NA
Lead	w	801007	22	3.50	7.59	10.71	0.0715	NA
Mercury	w	780803	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	801007	22	10.00	15.91	14.03	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	North River	<u>Station</u>	1BNTH016.24
<u>R. Mile</u>	016.24	<u>Agency</u>	VASWCB
<u>Location</u>	Route 11 Bridge S. of Mt. Crawford, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(11)	-0.27	0.280	5.00	2000.00	770808	1
Cadmium	w	71-78	15(14)	0.00	0.130	10.00	10.00	780803	1
Chromium	w	70-78	23(18)	0.00	0.340	10.00	29.99	700525	1
Copper	w	70-78	23(16)	0.00	0.340	10.00	29.99	700525	1
Lead	w	70-78	21(14)	-1.24	0.060	10.00	23.99	760802	1
Mercury	w	70-78	23(22)	0.00	0.260	0.50	0.90	730514	1
Zinc	w	70-78	22(15)	0.00	0.420	10.00	39.99	741017	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780803	2	1001.00	1001.00	1412.80	NA	429429
Cadmium	w	780803	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780803	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780803	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780803	2	2.00	2.00	0.00	0.0409	NA
Mercury	w	780803	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	780803	1	10.00	10.00	0.00	0.0014	NA

<u>River</u>	North River	<u>Station</u>	1BNTH000.18
<u>R. Mile</u>	000.18	<u>Agency</u>	VASWCB
<u>Location</u>	Route 629/865 Bridge at Port Republic, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	10(10)	-0.21	0.500	3.50	5.00	720430	5
Cadmium	w	71-78	13(12)	0.00	0.290	10.00	10.00	780829	1
Chromium	w	70-78	22(18)	0.00	0.140	10.00	10.00	780829	1
Copper	w	70-78	22(18)	0.00	0.400	10.00	19.99	710418	2
Lead	w	70-78	20(15)	0.00	0.240	10.00	51.00	780829	1
Mercury	w	70-78	23(22)	0.00	0.410	0.50	0.60	730801	1
Zinc	w	70-78	22(15)	0.00	0.330	10.00	109.90	741003	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780829	1	2.00	2.00	0.00	NA	858
Cadmium	w	780829	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	780829	1	10.00	10.00	0.00	0.0572	NA
Copper	w	780829	1	10.00	10.00	0.00	0.0077	NA
Lead	w	780829	1	51.00	51.00	0.00	1.0419	NA
Mercury	w	780829	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	780829	1	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	North River	<u>Station</u>	01625500
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Hwy 865 Bridge at Port Republic, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	72-73	2(1)	NA	NA	15.00	20.00	730910	1
Phenols	w	72-73	4(0)	NA	NA	2.00	10.00	731227	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	730910	2	15.00	15.00	7.07	0.0858	NA
Phenols	w	731227	3	2.00	4.50	4.77	0.0006	NA

<u>River</u>	Middle River	<u>Station</u>	1BMDL034.28
<u>R. Mile</u>	034.28	<u>Agency</u>	VASWCB
<u>Location</u>	Route 626 Bridge, Augusta Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-78	5(5)	NA	NA	2.00	3.00	750826	1
Cadmium	w	74-78	7(6)	NA	NA	10.00	11.99	750424	1
Chromium	w	74-78	8(8)	NA	NA	10.00	10.00	780209	8
Copper	w	74-78	8(8)	NA	NA	10.00	10.00	780209	8
Lead	w	74-78	8(2)	NA	NA	13.99	62.99	760319	1
Mercury	w	74-78	8(8)	NA	NA	0.50	0.50	-780209	8
Zinc	w	74-78	8(3)	NA	NA	14.99	139.90	741003	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780209	2	2.00	2.00	0.00	NA	858
Cadmium	w	780209	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	780209	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780209	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780209	2	21.99	21.99	14.14	0.4492	NA
Mercury	w	780209	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	780209	2	14.99	14.99	7.06	0.0020	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Middle River	<u>Station</u> 1BMDL029.46
<u>R. Mile</u>	029.46	<u>Agency</u> VASWCB
<u>Location</u>	Route 11 Bridge N.E. of Staunton, Augusta Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(10)	-0.38	0.310	2.00	7.00	710418	1
Cadmium	w	71-78	15(13)	0.00	0.180	10.00	68.99	750424	1
Chromium	w	70-78	23(18)	0.00	0.400	10.00	29.99	700408	1
Copper	w	70-78	22(17)	0.00	0.150	10.00	29.99	710418	1
Lead	w	70-78	20(13)	-1.50	0.020	10.00	29.99	711207	1
Mercury	w	70-78	21(21)	0.00	0.500	0.50	0.50	780209	8
Zinc	w	70-78	23(12)	0.00	0.420	10.00	250.00	741003	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780809	3	2.00	2.00	0.00	NA	858
Cadmium	w	780809	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780809	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780809	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780809	3	10.99	8.66	5.85	0.2245	NA
Mercury	w	780809	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780809	3	10.00	76.63	115.41	0.0014	NA

<u>River</u>	Poague Run	<u>Station</u> 1BPOG000.11
<u>R. Mile</u>	000.11	<u>Agency</u> VASWCB
<u>Location</u>	Below Holiday Inn Discharge, Augusta Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-73	1(1)	NA	NA	1.00	1.00	730814	1
Chromium	w	73-73	1(1)	NA	NA	10.00	10.00	730814	1
Copper	w	73-73	1(1)	NA	NA	10.00	10.00	730814	1
Lead	w	73-73	1(1)	NA	NA	10.00	10.00	730814	1
Mercury	w	73-73	1(1)	NA	NA	0.50	0.50	730814	1
Zinc	w	73-73	1(0)	NA	NA	10.00	10.00	730814	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730814	1	1.00	1.00	0.00	NA	429
Chromium	w	730814	1	10.00	10.00	0.00	0.0572	NA
Copper	w	730814	1	10.00	10.00	0.00	0.0077	NA
Lead	w	730814	1	10.00	10.00	0.00	0.2043	NA
Mercury	w	730814	1	0.50	0.50	0.00	0.0071	NA
Zinc	w	730814	1	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Lewis Creek	<u>Station</u>	1BLEW007.08
<u>R. Mile</u>	007.08	<u>Agency</u>	VASWCB
<u>Location</u>	Staunton, Augusta Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-78	7(7)	0.10	0.500	2.00	3.00	750826	1
Cadmium	w	73-78	9(9)	0.90	0.070	10.00	10.00	780809	1
Chromium	w	73-78	12(10)	0.00	0.190	10.00	10.00	780809	1
Copper	w	73-78	11(10)	0.00	0.190	10.00	10.00	780809	1
Lead	w	73-78	11(5)	-0.20	0.500	10.00	45.99	760319	1
Mercury	w	73-78	12(12)	-0.02	0.500	0.50	0.50	780209	7
Zinc	w	73-78	12(2)	2.50	0.370	20.00	159.90	741003	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Data	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780809	3	2.00	2.00	0.00	NA	858
Cadmium	w	780809	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780809	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780809	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780809	3	9.00	10.66	3.78	0.1839	NA
Mercury	w	780809	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780809	3	20.00	46.63	55.02	0.0027	NA

<u>River</u>	Lewis Creek	<u>Station</u>	1BLEW006.93
<u>R. Mile</u>	006.93	<u>Agency</u>	VASWCB
<u>Location</u>	Staunton, Augusta Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-78	7(6)	-0.90	0.070	2.00	6.00	730814	1
Cadmium	w	73-78	10(10)	0.90	0.070	10.00	10.00	780809	1
Chromium	w	73-78	13(10)	0.00	0.190	10.00	39.99	730515	1
Copper	w	73-78	13(11)	0.00	0.190	10.00	10.00	780809	1
Lead	w	73-78	12(4)	1.00	0.500	12.49	49.99	730814	1
Mercury	w	73-78	13(13)	-0.02	0.500	0.50	0.50	780209	8
Zinc	w	73-78	13(2)	-2.99	0.500	19.99	209.90	770906	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Data	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780809	3	2.00	2.00	0.00	NA	858
Cadmium	w	780809	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780809	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780809	3	10.00	10.00	0.00	0.0077	NA
Lead	w	780809	3	14.99	21.99	15.72	0.3062	NA
Mercury	w	780809	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780809	3	100.00	116.63	86.17	0.0136	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Lewis Creek	<u>Station</u> 1BLEW006.76
<u>R. Mile</u>	006.76	<u>Agency</u> VASWCB
<u>Location</u>	Above Farrier Dauling Co. Augusta Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-73	1(0)	NA	NA	3.00	3.00	730814	1
Cadmium	w	73-74	2(2)	NA	NA	5.50	10.00	740411	1
Chromium	w	73-74	4(3)	NA	NA	10.00	10.00	740411	4
Copper	w	73-74	4(4)	NA	NA	10.00	10.00	740411	4
Lead	w	73-74	3(1)	NA	NA	39.99	39.99	731120	2
Mercury	w	73-74	4(4)	NA	NA	0.50	0.50	740411	4
Zinc	w	73-74	4(1)	NA	NA	14.99	69.99	730814	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730814	1	3.00	3.00	0.00	NA	1287
Cadmium	w	740411	2	5.50	5.50	6.36	0.5424	NA
Chromium	w	740411	4	10.00	10.00	0.00	0.0572	NA
Copper	w	740411	4	10.00	10.00	0.00	0.0077	NA
Lead	w	740411	3	39.99	29.99	17.32	0.8169	NA
Mercury	w	740411	4	0.50	0.50	0.00	0.0071	NA
Zinc	w	740411	4	14.99	27.49	28.72	0.0020	NA

<u>River</u>	Lewis Creek	<u>Station</u> 1BLEW006.64
<u>R. Mile</u>	006.64	<u>Agency</u> VASWCB
<u>Location</u>	Below Farrier Dauling Co., Staunton, Augusta Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-73	1(0)	NA	NA	3.00	3.00	730814	1
Cadmium	w	73-74	2(2)	NA	NA	5.50	10.00	740411	1
Chromium	w	73-74	4(3)	NA	NA	10.00	10.00	740411	4
Copper	w	73-74	4(3)	NA	NA	10.00	10.00	740411	4
Lead	w	73-74	3(1)	NA	NA	19.99	39.99	730814	1
Mercury	w	73-74	4(4)	NA	NA	0.50	0.50	740411	4
Zinc	w	73-74	4(2)	NA	NA	10.00	59.99	730814	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730814	1	3.00	3.00	0.00	NA	1287
Cadmium	w	740411	2	5.50	5.50	6.36	0.5424	NA
Chromium	w	740411	4	10.00	10.00	0.00	0.0572	NA
Copper	w	740411	4	10.00	10.00	0.00	0.0077	NA
Lead	w	740411	3	19.99	23.33	15.27	0.4084	NA
Mercury	w	740411	4	0.50	0.50	0.00	0.0071	NA
Zinc	w	740411	4	10.00	22.50	25.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Lewis Creek	<u>Station</u>	1BLEW005.68
<u>R. Mile</u>	005.68	<u>Agency</u>	VASWCB
<u>Location</u>	Above Sewage Disposal Discharge, Augusta Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-78	6(5)	-1.33	0.150	2.00	6.00	730814	1
Cadmium	w	73-78	9(8)	3.00	0.270	10.00	10.00	780209	7
Chromium	w	73-78	12(11)	0.00	0.500	10.00	10.00	780209	12
Copper	w	73-78	10(8)	0.00	0.500	10.00	10.00	780209	10
Lead	w	73-78	11(3)	-12.66	0.150	10.00	39.99	730814	1
Mercury	w	73-78	12(12)	0.00	0.270	0.50	0.50	780209	8
Zinc	w	73-78	12(4)	-20.00	0.150	14.99	69.99	730814	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780209	2	2.00	2.00	0.00	NA	858
Cadmium	w	780209	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	780209	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780209	1	10.00	10.00	0.00	0.0077	NA
Lead	w	780209	2	22.99	22.99	4.24	0.4697	NA
Mercury	w	780209	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	780209	2	14.99	14.99	7.06	0.0020	NA

<u>River</u>	Lewis Creek	<u>Station</u>	1BLEW005.40
<u>R. Mile</u>	005.40	<u>Agency</u>	VASWCB
<u>Location</u>	Below Sewage Disposal Discharge, Augusta Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-78	6(5)	-0.33	0.500	2.00	3.00	750826	1
Cadmium	w	73-78	9(8)	3.00	0.270	10.00	17.99	750424	1
Chromium	w	73-78	12(11)	0.00	0.500	10.00	10.00	780209	12
Copper	w	73-78	11(8)	-3.33	0.270	10.00	19.99	750116	2
Lead	w	73-78	11(2)	-7.00	0.500	18.99	49.99	730814	1
Mercury	w	73-78	12(12)	0.00	0.270	0.50	0.50	780209	8
Zinc	w	73-78	12(0)	-10.00	0.270	39.99	89.99	770906	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780209	2	2.00	2.00	0.00	NA	858
Cadmium	w	780209	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	780209	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780209	1	10.00	10.00	0.00	0.0077	NA
Lead	w	780209	2	26.99	26.99	11.31	0.5514	NA
Mercury	w	780209	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	780209	2	59.99	59.99	42.43	0.0082	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Lewis Creek	<u>Station</u>	1BLEW002.80
<u>R. Mile</u>	002.80	<u>Agency</u>	VASWCB
<u>Location</u>	Route 275 Bridge, Augusta Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	83-83	1(0)	NA	NA	14.30	14.30	830602	1
Arsenic	w	71-82	11(10)	-0.38	0.310	2.00	5.00	711207	3
Beryllium	s	83-83	1(1)	NA	NA	2.00	2.00	830602	1
Cadmium	s	83-83	1(1)	NA	NA	0.20	0.20	830602	1
Cadmium	w	71-82	16(16)	0.00	0.340	10.00	10.00	780809	1
Chromium	w	70-82	24(20)	0.00	0.120	10.00	19.99	711207	1
Chromium	s	83-83	1(0)	NA	NA	26.50	26.50	830602	1
Copper	s	83-83	1(0)	NA	NA	19.80	19.80	830602	1
Copper	w	70-82	24(19)	0.00	0.220	10.00	29.99	711207	1
Lead	s	83-83	1(0)	NA	NA	30.60	30.60	830602	1
Lead	w	70-82	21(8)	-0.12	0.430	10.00	59.99	711207	1
Mercury	s	83-83	1(0)	NA	NA	0.28	0.28	830602	1
Mercury	w	70-82	23(22)	0.00	0.350	0.50	0.50	780209	8
Nickel	s	83-83	1(0)	NA	NA	32.60	32.60	830602	1
Nickel	w	82-82	1(1)	NA	NA	10.00	10.00	820714	1
Zinc	s	83-83	1(0)	NA	NA	77.50	77.50	830602	1
Zinc	w	70-82	24(4)	0.00	0.360	19.99	109.90	711207	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	830602	1	14.30	14.30	0.00	NA	NA
Arsenic	w	820714	1	1.00	1.00	0.00	NA	429
Beryllium	s	830602	1	2.00	2.00	0.00	NA	NA
Cadmium	s	830602	1	0.20	0.20	0.00	NA	NA
Cadmium	w	820714	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	820714	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	830602	1	26.50	26.50	0.00	NA	NA
Copper	s	830602	1	19.80	19.80	0.00	NA	NA
Copper	w	820714	1	10.00	10.00	0.00	0.0077	NA
Lead	s	830602	1	30.60	30.60	0.00	NA	NA
Lead	w	820714	1	2.00	2.00	0.00	0.0409	NA
Mercury	s	830602	1	0.28	0.28	0.00	NA	NA
Mercury	w	820714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	830602	1	32.60	32.60	0.00	NA	NA
Nickel	w	820714	1	10.00	10.00	0.00	0.0286	NA
Zinc	s	830602	1	77.50	77.50	0.00	NA	NA
Zinc	w	820714	1	20.00	20.00	0.00	0.0027	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Lewis Creek	<u>Station</u> 1BLEW000.61
<u>R. Mile</u>	000.61	<u>Agency</u> VASWCB
<u>Location</u>	Route 612 Bridge, Augusta Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	10(10)	-0.55	0.370	2.50	5.00	720502	4
Cadmium	w	71-78	15(12)	0.00	0.380	10.00	18.99	750424	1
Chromium	w	70-78	23(18)	0.00	0.500	10.00	19.99	701119	1
Copper	w	70-78	21(16)	0.00	0.060	10.00	29.99	710805	1
Lead	w	70-78	20(7)	0.50	0.180	10.00	69.99	730814	1
Mercury	w	70-78	22(21)	0.00	0.030	0.50	0.50	780209	8
Zinc	w	70-78	23(6)	0.00	0.500	10.00	149.90	770906	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780209	2	2.00	2.00	0.00	NA	858
Cadmium	w	780209	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	780209	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780209	1	10.00	10.00	0.00	0.0077	NA
Lead	w	780209	2	10.49	10.49	0.70	0.2144	NA
Mercury	w	780209	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	780209	2	79.95	79.95	98.92	0.0109	NA

<u>River</u>	Middle River	<u>Station</u> 1BMDL022.09
<u>R. Mile</u>	022.09	<u>Agency</u> VASWCB
<u>Location</u>	Route 780 Bridge E. of Verona, Augusta Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	12(12)	-0.38	0.310	2.50	5.00	720502	5
Cadmium	w	71-78	17(17)	0.00	0.180	10.00	10.00	780809	1
Chromium	w	70-78	24(17)	0.00	0.230	10.00	19.99	711207	2
Copper	w	70-78	23(15)	0.00	0.300	10.00	29.99	700524	1
Lead	w	70-78	22(11)	-0.50	0.350	10.00	28.99	760816	1
Mercury	w	70-78	24(24)	0.00	0.350	0.50	0.50	780209	8
Zinc	w	70-78	23(9)	0.00	0.430	10.00	159.90	741003	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780809	3	2.00	2.00	0.00	NA	858
Cadmium	w	780809	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780809	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780809	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780809	3	14.99	12.66	6.80	0.3062	NA
Mercury	w	780809	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780809	2	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Christians Creek	<u>Station</u>	1BCST016.20
<u>R. Mile</u>	016.20	<u>Agency</u>	VASWCB
<u>Location</u>	Route 635 S. of Staunton, Augusta Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(11)	-0.38	0.310	2.00	5.00	711207	4
Cadmium	w	71-78	16(16)	0.00	0.100	10.00	11.99	750424	1
Chromium	w	70-78	23(16)	0.00	0.400	10.00	29.99	700524	1
Copper	w	70-78	22(16)	0.00	0.500	10.00	29.99	710805	1
Lead	w	70-78	20(10)	0.00	0.420	10.00	34.99	760319	1
Mercury	w	70-78	23(22)	0.00	0.420	0.50	2.10	750826	1
Zinc	w	70-78	23(6)	0.00	0.290	10.00	259.90	770906	1
Aldrin	w	74-74	1(0)	NA	NA	0.10	0.10	741003	1
Dieldrin	w	71-71	1(0)	NA	NA	0.07	0.07	710418	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780809	3	2.00	2.00	0.00	NA	858
Cadmium	w	780809	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780809	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780809	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780809	3	6.00	7.66	4.72	0.1226	NA
Mercury	w	780809	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780809	3	20.00	96.63	141.48	0.0027	NA
Aldrin	w	741003	1	0.10	0.10	0.00	0.0953	33
Dieldrin	w	710418	1	0.07	0.07	0.00	NA	60

<u>River</u>	Christians Creek	<u>Station</u>	1BCST006.43
<u>R. Mile</u>	006.43	<u>Agency</u>	VASWCB
<u>Location</u>	Route 254 Bridge, Augusta Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(10)	-0.38	0.310	2.00	5.00	720502	4
Cadmium	w	71-78	16(14)	0.00	0.340	10.00	10.00	780809	1
Chromium	w	70-78	24(20)	0.00	0.230	10.00	19.99	770906	4
Copper	w	70-78	24(18)	0.00	0.420	10.00	29.99	710805	1
Lead	w	70-78	21(12)	-0.37	0.120	10.00	39.99	710805	1
Mercury	w	70-78	23(23)	0.00	0.350	0.50	0.50	780209	8
Zinc	w	70-78	24(11)	0.00	0.430	10.00	109.90	770906	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780809	3	2.00	2.00	0.00	NA	858
Cadmium	w	780809	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780809	3	10.00	13.33	5.77	0.0572	NA
Copper	w	780809	3	10.00	10.00	0.00	0.0077	NA
Lead	w	780809	3	13.99	11.99	3.46	0.2858	NA
Mercury	w	780809	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780809	3	10.00	43.30	57.68	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	South River	<u>Station</u> 1BSTH038.50
<u>R. Mile</u>	038.50	<u>Agency</u> VASWCB
<u>Location</u>	Route 608 Bridge, Augusta Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-77	10(9)	-0.60	0.150	4.00	29.99	720430	1
Cadmium	w	71-77	12(11)	0.00	0.500	10.00	10.00	770309	11
Chromium	w	70-77	21(16)	0.00	0.500	10.00	19.99	720430	2
Copper	w	70-77	21(10)	-2.00	0.050	10.00	329.90	711207	1
Lead	w	70-77	19(13)	0.00	0.390	10.00	33.99	760812	1
Mercury	w	70-77	22(22)	0.00	0.040	0.50	0.50	770309	7
Zinc	w	70-77	21(12)	0.00	0.500	10.00	39.99	710418	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770309	3	2.00	2.00	0.00	NA	858
Cadmium	w	770309	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	770309	3	10.00	10.00	0.00	0.0572	NA
Copper	w	770309	3	10.00	10.00	0.00	0.0077	NA
Lead	w	770309	3	8.00	15.33	16.28	0.1634	NA
Mercury	w	770309	3	0.50	0.50	0.00	0.0072	NA
Zinc	w	770309	3	19.99	16.66	5.77	0.0027	NA

<u>River</u>	South River	<u>Station</u> 1BSTH033.50
<u>R. Mile</u>	033.50	<u>Agency</u> VASWCB
<u>Location</u>	Route 634 Bridge, Augusta Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-77	9(9)	-0.55	0.370	3.00	5.00	720430	4
Cadmium	w	71-77	12(11)	0.00	0.500	10.00	10.00	770309	12
Chromium	w	70-77	22(19)	0.00	0.500	10.00	10.00	770309	22
Copper	w	70-77	22(14)	-2.91	0.020	10.00	79.99	711207	1
Lead	w	70-77	19(11)	-0.90	0.030	10.00	10.00	750114	14
Mercury	w	70-77	22(20)	0.00	0.030	0.50	0.50	770309	7
Zinc	w	70-77	22(13)	0.00	0.500	10.00	379.90	760312	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770309	3	2.00	2.00	0.00	NA	858
Cadmium	w	770309	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	770309	3	10.00	10.00	0.00	0.0572	NA
Copper	w	770309	3	10.00	10.00	0.00	0.0077	NA
Lead	w	770309	3	6.00	5.67	2.52	0.1226	NA
Mercury	w	770309	3	0.50	0.50	0.00	0.0072	NA
Zinc	w	770309	3	10.00	133.30	213.56	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	South River	<u>Station</u>	1BSTH030.80
<u>R. Mile</u>	030.80	<u>Agency</u>	VASWCB
<u>Location</u>	Route 632 Bridge, Augusta Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-73	5(5)	NA	NA	5.00	5.00	720430	4
Cadmium	w	71-74	7(7)	0.00	0.270	10.00	10.00	740428	6
Chromium	w	70-74	14(11)	0.00	0.500	10.00	10.00	740428	14
Copper	w	70-74	14(8)	0.00	0.500	10.00	39.99	711207	1
Lead	w	70-74	11(7)	0.00	0.500	10.00	19.99	711207	1
Mercury	w	70-74	14(12)	0.00	0.270	0.50	0.90	730801	1
Zinc	w	70-74	14(10)	0.00	0.500	10.00	39.99	701119	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730801	1	1.00	1.00	0.00	NA	429
Cadmium	w	740428	2	5.50	5.50	6.36	0.5424	NA
Chromium	w	740428	5	10.00	10.00	0.00	0.0572	NA
Copper	w	740428	5	10.00	10.00	0.00	0.0077	NA
Lead	w	740428	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740428	5	0.50	0.64	0.19	0.0071	NA
Zinc	w	740428	5	10.00	10.00	0.00	0.0014	NA

<u>River</u>	South River	<u>Station</u>	1BSTH028.51
<u>R. Mile</u>	028.51	<u>Agency</u>	VASWCB
<u>Location</u>	Route 653 Bridge S. of Waynesboro, Augusta Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-73	6(6)	NA	NA	5.00	5.00	720430	5
Cadmium	w	71-74	8(8)	0.00	0.270	10.00	10.00	740408	7
Chromium	w	70-74	15(12)	0.00	0.500	10.00	10.00	740408	15
Copper	w	70-74	15(10)	0.00	0.500	10.00	19.99	711207	2
Lead	w	70-74	13(9)	0.00	0.500	10.00	39.99	711207	1
Mercury	w	70-74	16(16)	0.00	0.500	0.50	0.50	740408	16
Zinc	w	67-74	16(13)	0.00	0.500	10.00	49.99	701119	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730801	1	1.00	1.00	0.00	NA	429
Cadmium	w	740408	2	5.50	5.50	6.36	0.5424	NA
Chromium	w	740408	5	10.00	10.00	0.00	0.0572	NA
Copper	w	740408	5	10.00	10.00	0.00	0.0077	NA
Lead	w	740408	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740408	5	0.50	0.50	0.00	0.0071	NA
Zinc	w	740408	5	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	South River	<u>Station</u>	1BSTH027.10
<u>R. Mile</u>	027.10	<u>Agency</u>	VASWCB
<u>Location</u>	Route 664 Bridge, Waynesboro, Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	79-83	2(1)	NA	NA	5.70	9.80	790815	1
Arsenic	w	76-82	5(5)	NA	NA	2.00	2.00	780829	4
Beryllium	s	83-83	1(1)	NA	NA	1.60	1.60	830602	1
Cadmium	s	79-83	2(2)	NA	NA	0.18	0.20	790815	1
Cadmium	w	74-82	6(6)	NA	NA	10.00	10.00	780829	1
Chromium	w	74-82	8(8)	NA	NA	10.00	10.00	780829	1
Chromium	s	79-83	2(0)	NA	NA	7.95	9.20	830602	1
Copper	s	79-83	2(0)	NA	NA	3.45	4.00	830602	1
Copper	w	74-82	8(8)	NA	NA	10.00	10.00	820714	2
Lead	s	79-83	2(0)	NA	NA	23.00	38.20	830602	1
Lead	w	74-82	8(4)	NA	NA	2.50	10.00	750114	2
Mercury	s	79-83	2(1)	NA	NA	0.20	0.22	830602	1
Mercury	w	74-82	8(8)	NA	NA	0.50	0.50	770201	6
Nickel	s	79-83	2(1)	NA	NA	3.80	5.70	830602	1
Nickel	w	82-82	1(1)	NA	NA	10.00	10.00	820714	1
Zinc	s	79-83	2(0)	NA	NA	35.45	47.00	790815	1
Zinc	w	74-82	8(3)	NA	NA	19.99	79.99	741003	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830602	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	830602	1	1.60	1.60	0.00	NA	NA
Arsenic	w	820714	1	1.00	1.00	0.00	NA	429
Beryllium	s	830602	1	1.60	1.60	0.00	NA	NA
Cadmium	s	830602	1	0.16	0.16	0.00	NA	NA
Cadmium	w	820714	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	820714	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	830602	1	9.20	9.20	0.00	NA	NA
Copper	s	830602	1	4.00	4.00	0.00	NA	NA
Copper	w	820714	1	10.00	10.00	0.00	0.0077	NA
Lead	s	830602	1	38.20	38.20	0.00	NA	NA
Lead	w	820714	1	3.00	3.00	0.00	0.0613	NA
Mercury	s	830602	1	0.22	0.22	0.00	NA	NA
Mercury	w	820714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	830602	1	5.70	5.70	0.00	NA	NA
Nickel	w	820714	1	10.00	10.00	0.00	0.0286	NA
Zinc	s	830602	1	23.90	23.90	0.00	NA	NA
Zinc	w	820714	1	40.00	40.00	0.00	0.0054	NA
Aldrin	s	830602	1	0.02	0.02	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	South River	<u>Station</u>	1BSTH023.70
<u>R. Mile</u>	023.70	<u>Agency</u>	VASWCB
<u>Location</u>	Route 250 Bypass in Waynesboro, Augusta Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(11)	-0.38	0.310	3.00	5.00	720430	5
Cadmium	w	71-78	14(13)	0.00	0.200	10.00	19.99	720430	1
Chromium	w	70-78	23(14)	0.00	0.170	10.00	99.99	731102	1
Copper	w	70-78	23(14)	0.00	0.500	10.00	29.99	710418	1
Lead	w	70-78	20(9)	0.00	0.360	10.00	29.99	711207	1
Mercury	w	70-78	24(23)	0.00	0.290	0.50	0.50	770201	7
Zinc	w	70-78	23(8)	0.00	0.250	10.00	169.90	741003	1
Endrin	w	71-71	1(0)	NA	NA	0.14	0.14	710616	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780829	1	2.00	2.00	0.00	NA	858
Cadmium	w	780829	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	780829	1	10.00	10.00	0.00	0.0572	NA
Copper	w	780829	1	10.00	10.00	0.00	0.0077	NA
Lead	w	780829	1	12.00	12.00	0.00	0.2451	NA
Mercury	w	780829	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	780829	1	40.00	40.00	0.00	0.0054	NA
Endrin	w	710616	1	0.14	0.14	0.00	NA	NA

<u>River</u>	South River	<u>Station</u>	1BSTH018.50
<u>R. Mile</u>	018.50	<u>Agency</u>	VASWCB
<u>Location</u>	Route 611 Bridge near Dooms, Augusta Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	10(10)	-0.38	0.310	2.50	5.00	720430	4
Cadmium	w	71-78	14(14)	0.00	0.180	10.00	10.00	780829	1
Chromium	w	70-78	23(10)	-5.00	0.020	10.00	250.00	710805	1
Copper	w	70-78	23(14)	0.00	0.430	10.00	29.99	701119	2
Lead	w	70-78	20(13)	-0.60	0.150	10.00	39.99	711207	1
Mercury	w	70-78	23(23)	0.00	0.290	0.50	0.50	770309	7
Zinc	w	67-78	24(7)	6.00	0.040	10.00	109.90	741003	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780829	1	2.00	2.00	0.00	NA	858
Cadmium	w	780829	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	780829	1	20.00	20.00	0.00	0.1144	NA
Copper	w	780829	1	10.00	10.00	0.00	0.0077	NA
Lead	w	780829	1	7.00	7.00	0.00	0.1430	NA
Mercury	w	780829	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	780829	1	90.00	90.00	0.00	0.0123	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	South River	<u>Station</u> 1BSTH014.49
<u>R. Mile</u>	014.49	<u>Agency</u> VASWCB
<u>Location</u>	Route 612 Bridge at Crimora, Augusta Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	9(9)	-0.38	0.310	3.00	5.00	720430	4
Cadmium	w	71-78	13(12)	0.00	0.180	10.00	10.00	780829	1
Chromium	w	70-78	22(9)	-2.00	0.080	10.00	59.99	701119	1
Copper	w	70-78	22(11)	0.00	0.500	10.00	19.99	711207	4
Lead	w	70-78	19(11)	-0.33	0.140	10.00	29.99	760812	1
Mercury	w	70-78	22(20)	0.00	0.430	0.50	0.70	730801	1
Zinc	w	70-78	22(9)	0.00	0.430	10.00	129.90	741003	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780829	1	2.00	2.00	0.00	NA	858
Cadmium	w	780829	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	780829	1	10.00	10.00	0.00	0.0572	NA
Copper	w	780829	1	10.00	10.00	0.00	0.0077	NA
Lead	w	780829	1	7.00	7.00	0.00	0.1430	NA
Mercury	w	780829	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	780829	1	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	South River	<u>Station</u> 1BSTH007.80
<u>R. Mile</u>	007.80	<u>Agency</u> VASWCB
<u>Location</u>	Route 778 at Harrisonburg, Augusta Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	79-83	2(1)	NA	NA	8.25	9.00	790815	1
Arsenic	w	71-82	11(11)	-0.38	0.310	2.00	5.00	720430	4
Beryllium	s	83-83	1(1)	NA	NA	1.90	1.90	830602	1
Cadmium	s	79-83	2(0)	NA	NA	0.28	0.37	830602	1
Cadmium	w	71-82	15(13)	0.00	0.180	10.00	10.00	780829	1
Chromium	w	70-82	24(12)	0.00	0.430	10.00	89.99	710805	1
Chromium	s	79-83	2(0)	NA	NA	50.00	74.80	830602	1
Copper	s	79-83	2(0)	NA	NA	34.90	56.10	830602	1
Copper	w	70-82	24(12)	0.00	0.500	10.00	19.99	711207	3
Lead	s	79-83	2(0)	NA	NA	40.70	58.00	830602	1
Lead	w	70-82	21(14)	-1.33	0.030	10.00	13.99	760312	1
Mercury	s	79-83	2(1)	NA	NA	4.54	8.90	830602	1
Mercury	w	70-78	23(21)	0.00	0.290	0.50	0.60	700908	1
Nickel	s	79-83	2(0)	NA	NA	12.05	18.70	830602	1
Nickel	w	82-82	1(1)	NA	NA	10.00	10.00	820714	1
Zinc	s	79-83	2(0)	NA	NA	81.40	116.00	830602	1
Zinc	w	67-82	25(9)	0.00	0.370	10.00	199.90	741003	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830602	1
Phenols	w	82-83	2(1)	NA	NA	0.00	0.00	830118	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	830602	1	7.50	7.50	0.00	NA	NA
Arsenic	w	820714	1	1.00	1.00	0.00	NA	429
Beryllium	s	830602	1	1.90	1.90	0.00	NA	NA
Cadmium	s	830602	1	0.37	0.37	0.00	NA	NA
Cadmium	w	820714	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	820714	1	5.00	5.00	0.00	0.0286	NA
Chromium	s	830602	1	74.80	74.80	0.00	NA	NA
Copper	s	830602	1	56.10	56.10	0.00	NA	NA
Copper	w	820714	1	10.00	10.00	0.00	0.0077	NA
Lead	s	830602	1	58.00	58.00	0.00	NA	NA
Lead	w	820714	1	0.30	0.30	0.00	0.0061	NA
Mercury	s	830602	1	8.90	8.90	0.00	NA	NA
Mercury	w	780829	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	830602	1	18.70	18.70	0.00	NA	NA
Nickel	w	820714	1	10.00	10.00	0.00	0.0286	NA
Zinc	s	830602	1	116.00	116.00	0.00	NA	NA
Zinc	w	820714	1	20.00	20.00	0.00	0.0027	NA
Aldrin	s	830602	1	0.02	0.02	0.00	NA	NA
Phenols	w	830118	2	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	South River	<u>Station</u>	1BSTH000.19
<u>R. Mile</u>	000.19	<u>Agency</u>	VASWCB
<u>Location</u>	Route 629 Bridge at Port Republic, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	8(8)	-0.38	0.370	2.50	5.00	720430	3
Cadmium	w	71-78	12(12)	0.00	0.290	10.00	10.00	780829	1
Chromium	w	70-78	21(11)	-0.71	0.160	10.00	59.99	700408	1
Copper	w	70-78	21(15)	0.00	0.400	10.00	19.99	710418	1
Lead	w	70-78	18(13)	-0.15	0.050	10.00	10.00	750114	13
Mercury	w	70-78	21(19)	0.00	0.500	0.50	0.80	730801	1
Zinc	w	70-78	21(10)	0.00	0.160	10.00	89.99	741003	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780829	1	2.00	2.00	0.00	NA	858
Cadmium	w	780829	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	780829	1	10.00	10.00	0.00	0.0572	NA
Copper	w	780829	1	10.00	10.00	0.00	0.0077	NA
Lead	w	780829	1	9.00	9.00	0.00	0.1839	NA
Mercury	w	780829	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	780829	1	10.00	10.00	0.00	0.0014	NA

<u>River</u>	South Fork Shenandoah River	<u>Station</u>	01628250
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Hwy 659 Bridge at Lynwood, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	70-73	13(0)	NA	NA	10.00	50.00	700615	1
Cyanide	w	70-72	4(0)	NA	NA	0.01	0.04	700413	1
Phenols	w	72-73	3(0)	NA	NA	8.00	11.00	730314	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	730314	3	20.00	20.00	10.00	0.1144	NA
Cyanide	w	721213	1	0.01	0.01	0.00	NA	NA
Phenols	w	730314	3	8.00	6.67	5.13	0.0023	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	South Fork Shenandoah	<u>Station</u> 1BSSF100.07
<u>R. Mile</u>	100.07	<u>Agency</u> VASWCB
<u>Location</u>	Route 659 Bridge near Lynwood, Rockingham Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-77	9(9)	-0.55	0.370	3.00	5.00	720430	4
Cadmium	w	71-77	13(12)	0.00	0.500	10.00	10.00	770201	12
Chromium	w	70-77	22(17)	0.00	0.500	10.00	19.99	720430	2
Copper	w	70-77	22(17)	0.00	0.500	10.00	10.00	770201	22
Lead	w	70-77	19(10)	0.00	0.410	10.00	19.99	711207	1
Mercury	w	70-77	22(21)	0.00	0.030	0.50	0.50	770201	7
Zinc	w	70-77	22(11)	0.00	0.410	10.00	99.99	741003	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770201	3	2.00	2.00	0.00	NA	858
Cadmium	w	770201	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	770201	3	10.00	10.00	0.00	0.0572	NA
Copper	w	770201	3	10.00	10.00	0.00	0.0077	NA
Lead	w	770201	3	6.00	8.00	3.46	0.1226	NA
Mercury	w	770201	3	0.50	0.50	0.00	0.0072	NA
Zinc	w	770201	3	19.99	19.99	10.00	0.0027	NA

<u>River</u>	South Fork Shenandoah	<u>Station</u> 1BSSF092.69
<u>R. Mile</u>	092.69	<u>Agency</u> VASWCB
<u>Location</u>	Route 649 Bridge, Rockingham Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	10(10)	-0.38	0.310	2.50	5.00	720430	4
Cadmium	w	71-78	14(13)	0.00	0.180	10.00	10.00	780828	1
Chromium	w	70-78	22(16)	0.00	0.180	10.00	19.99	720430	2
Copper	w	70-78	22(15)	0.00	0.500	10.00	59.99	710418	1
Lead	w	70-78	19(9)	-1.25	0.010	10.00	67.99	770201	1
Mercury	w	70-78	22(21)	0.00	0.290	0.50	17.50	700908	1
Zinc	w	70-78	22(9)	0.00	0.500	10.00	109.90	741003	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780828	1	2.00	2.00	0.00	NA	858
Cadmium	w	780828	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	780828	1	10.00	10.00	0.00	0.0572	NA
Copper	w	780828	1	10.00	10.00	0.00	0.0077	NA
Lead	w	780828	1	1.00	1.00	0.00	0.0204	NA
Mercury	w	780828	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	780828	1	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	South Fork Shenandoah	<u>Station</u>	1BSSF085.08
<u>R. Mile</u>	085.08	<u>Agency</u>	VASWCB
<u>Location</u>	Route 33 Bridge, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-79	17(17)	-0.21	0.500	2.00	5.00	720430	5
Cadmium	w	71-79	19(19)	0.00	0.290	10.00	10.00	790301	8
Chromium	w	70-79	30(22)	0.00	0.070	10.00	49.99	700525	1
Copper	w	70-79	29(20)	0.00	0.500	10.00	59.99	700525	1
Lead	w	70-79	27(11)	-0.20	0.000	10.00	149.90	770201	1
Mercury	w	70-79	28(28)	0.00	0.500	0.50	0.50	770201	6
Zinc	w	67-79	33(9)	0.00	0.430	10.00	250.00	741003	1
Heptachlor Epoxide	w	71-71	1(0)	NA	NA	0.13	0.13	710418	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790301	8	2.00	1.75	0.46	NA	858
Cadmium	w	790301	8	10.00	10.00	0.00	0.9862	NA
Chromium	w	790301	8	10.00	10.00	0.00	0.0572	NA
Copper	w	790301	8	10.00	10.00	0.00	0.0077	NA
Lead	w	790301	8	7.00	6.13	2.42	0.1430	NA
Mercury	w	790301	8	0.30	0.30	0.00	0.0043	NA
Zinc	w	790301	8	10.00	15.00	9.26	0.0014	NA
Heptachlor Epoxide	w	710418	1	0.13	0.13	0.00	0.1238	10

<u>River</u>	South Fork Shenandoah	<u>Station</u>	1BSSF078.24
<u>R. Mile</u>	078.24	<u>Agency</u>	VASWCB
<u>Location</u>	Route 602 Bridge, Rockingham Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	9(9)	-0.21	0.500	2.00	5.00	720518	4
Cadmium	w	71-78	13(12)	0.00	0.230	10.00	10.00	780829	1
Chromium	w	70-78	23(13)	0.00	0.190	10.00	19.99	701119	1
Copper	w	70-78	22(16)	0.00	0.390	10.00	29.99	700525	1
Lead	w	70-78	20(14)	0.00	0.500	10.00	37.99	760812	1
Mercury	w	70-78	21(19)	0.00	0.500	0.50	0.70	700909	1
Zinc	w	70-78	23(7)	0.00	0.200	19.99	149.90	741003	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780829	1	2.00	2.00	0.00	NA	858
Cadmium	w	780829	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	780829	1	10.00	10.00	0.00	0.0572	NA
Copper	w	780829	1	10.00	10.00	0.00	0.0077	NA
Lead	w	780829	1	19.00	19.00	0.00	0.3881	NA
Mercury	w	780829	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	780829	1	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	South Fork Shenandoah	<u>Station</u> 1BSSF060.57
<u>R. Mile</u>	060.57	<u>Agency</u> VASWCB
<u>Location</u>	Route 340 Bridge, Page Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(11)	-0.33	0.270	2.00	5.00	720518	4
Cadmium	w	71-78	16(16)	0.00	0.050	10.00	24.99	750417	1
Chromium	w	70-78	25(15)	0.00	0.120	10.00	10.00	780809	1
Copper	w	70-78	24(18)	0.00	0.500	10.00	29.99	700525	1
Lead	w	70-78	22(15)	-1.55	0.010	10.00	19.99	720215	2
Mercury	w	70-78	23(21)	0.00	0.500	0.50	1.30	710414	1
Zinc	w	70-78	24(7)	0.00	0.410	10.00	49.99	740412	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780809	3	2.00	2.00	0.00	NA	858
Cadmium	w	780809	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780809	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780809	3	10.00	10.00	0.00	0.0077	NA
Lead	w	780809	3	2.00	4.00	4.36	0.0409	NA
Mercury	w	780809	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780809	2	10.00	10.00	0.00	0.0014	NA

<u>River</u>	South Fork Shenandoah	<u>Station</u> 1BSSF054.20
<u>R. Mile</u>	054.20	<u>Agency</u> VASWCB
<u>Location</u>	Route 211 Bridge E. of New Market, Page Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	79-83	2(1)	NA	NA	24.70	43.00	790820	1
Arsenic	w	71-78	10(10)	0.00	0.500	2.00	5.00	720518	4
Beryllium	s	83-83	1(1)	NA	NA	1.60	1.60	830623	1
Cadmium	s	79-83	2(2)	NA	NA	0.29	0.43	790820	1
Cadmium	w	71-82	16(15)	0.00	0.310	10.00	10.00	780809	1
Chromium	w	70-82	26(18)	0.00	0.500	10.00	39.99	700628	1
Chromium	s	79-83	2(0)	NA	NA	19.90	30.40	830623	1
Copper	s	79-83	2(0)	NA	NA	12.15	19.20	830623	1
Copper	w	70-82	25(19)	0.00	0.400	10.00	99.99	750122	1
Lead	s	79-83	2(0)	NA	NA	29.10	49.60	830623	1
Lead	w	70-82	23(14)	-0.70	0.180	10.00	19.99	720215	2
Mercury	s	79-83	2(1)	NA	NA	0.45	0.82	830623	1
Mercury	w	70-82	23(22)	0.00	0.500	0.50	0.60	710414	1
Nickel	s	79-83	2(0)	NA	NA	10.05	15.80	830623	1
Nickel	w	82-82	1(1)	NA	NA	10.00	10.00	820707	1
Zinc	s	79-83	2(0)	NA	NA	60.35	92.80	830623	1
Zinc	w	70-82	25(11)	0.00	0.070	10.00	49.99	701117	1
Phenols	w	82-83	2(0)	NA	NA	0.00	0.00	821207	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

Station 1BSSF060.57 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	830623	1	6.40	6.40	0.00	NA	NA
Arsenic	w	780809	3	2.00	2.00	0.00	NA	858
Beryllium	s	830623	1	1.60	1.60	0.00	NA	NA
Cadmium	s	830623	1	0.16	0.16	0.00	NA	NA
Cadmium	w	820707	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	820707	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	830623	1	30.40	30.40	0.00	NA	NA
Copper	s	830623	1	19.20	19.20	0.00	NA	NA
Copper	w	820707	1	10.00	10.00	0.00	0.0077	NA
Lead	s	830623	1	49.60	49.60	0.00	NA	NA
Lead	w	820707	1	2.00	2.00	0.00	0.0409	NA
Mercury	s	830623	1	0.82	0.82	0.00	NA	NA
Mercury	w	820707	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	830623	1	15.80	15.80	0.00	NA	NA
Nickel	w	820707	1	10.00	10.00	0.00	0.0286	NA
Zinc	s	830623	1	92.80	92.80	0.00	NA	NA
Zinc	w	820707	1	10.00	10.00	0.00	0.0014	NA
Phenols	w	830119	2	0.00	0.00	0.00	NA	NA

<u>River</u>	Hawksbill Creek	<u>Station</u>	1BHS006.23
<u>R. Mile</u>	006.23	<u>Agency</u>	VASWCB
<u>Location</u>	Route 675 Bridge in Luray, Page Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(10)	-0.38	0.310	3.00	24.99	720518	1
Cadmium	w	71-78	15(15)	0.00	0.310	10.00	10.00	780809	1
Chromium	w	69-78	26(18)	0.00	0.330	10.00	19.99	700628	1
Copper	w	69-78	26(17)	0.00	0.270	10.00	69.99	700628	1
Lead	w	69-78	24(14)	-0.42	0.050	10.00	39.99	741023	1
Mercury	w	70-78	23(19)	0.00	0.500	0.50	1.20	730126	1
Zinc	w	69-78	25(11)	0.00	0.500	10.00	49.99	721005	1
Endrin	w	71-71	1(0)	NA	NA	0.06	0.06	710504	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780809	3	2.00	2.00	0.00	NA	858
Cadmium	w	780809	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780809	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780809	3	10.00	10.00	0.00	0.0077	NA
Lead	w	780809	3	2.00	4.33	4.93	0.0409	NA
Mercury	w	780809	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780809	2	10.00	10.00	0.00	0.0014	NA
Endrin	w	710504	1	0.06	0.06	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Hawksbill Creek	<u>Station</u>	1BHKS006.04
<u>R. Mile</u>	006.04	<u>Agency</u>	VASWCB
<u>Location</u>	Immediately Below Town of Luray STP, Page Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-78	5(5)	0.10	0.500	2.00	3.00	750828	1
Cadmium	w	72-78	10(9)	0.90	0.070	10.00	11.99	750417	1
Chromium	w	72-78	15(3)	-19.99	0.500	59.99	4500.00	731108	1
Copper	w	72-78	15(12)	0.00	0.190	10.00	39.99	731108	1
Lead	w	72-78	14(7)	-1.70	0.370	10.00	39.99	721005	1
Mercury	w	72-78	15(15)	-0.02	0.500	0.50	0.50	780213	7
Zinc	w	72-78	14(7)	0.00	0.500	10.00	49.99	731108	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780809	3	2.00	2.00	0.00	NA	858
Cadmium	w	780809	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780809	3	49.99	36.66	23.09	0.2859	NA
Copper	w	780809	3	10.00	10.00	0.00	0.0077	NA
Lead	w	780809	3	3.00	3.00	1.00	0.0613	NA
Mercury	w	780809	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780809	2	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Hawksbill Creek	<u>Station</u>	1BHKS005.85
<u>R. Mile</u>	005.85	<u>Agency</u>	VASWCB
<u>Location</u>	Town of Luray STP, Page Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-73	1(1)	NA	NA	1.00	1.00	730807	1
Cadmium	w	72-74	3(2)	NA	NA	10.00	10.00	740412	2
Chromium	w	72-74	6(5)	NA	NA	10.00	10.00	740412	6
Copper	w	72-74	6(3)	NA	NA	24.99	59.99	730516	2
Lead	w	72-74	5(1)	NA	NA	10.00	29.99	721005	1
Mercury	w	72-74	6(5)	NA	NA	0.50	0.50	740412	6
Zinc	w	72-74	6(1)	NA	NA	124.90	189.90	740412	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730807	1	1.00	1.00	0.00	NA	429
Cadmium	w	740412	2	5.50	5.50	6.36	0.5424	NA
Chromium	w	740412	3	10.00	10.00	0.00	0.0572	NA
Copper	w	740412	3	39.99	36.66	25.16	0.0309	NA
Lead	w	740412	2	10.00	10.00	0.00	0.2043	NA
Mercury	w	740412	3	0.50	0.50	0.00	0.0071	NA
Zinc	w	740412	3	19.99	73.30	101.11	0.0027	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Hawksbill Creek	<u>Station</u>	1BHKS000.96
<u>R. Mile</u>	00.96	<u>Agency</u>	VASWCB
<u>Location</u>	Rt. 648 Bridge below Luray, Page County, VA		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	79-83	2(1)	NA	NA	26.35	44.00	790820	1
Arsenic	w	71-78	11(9)	-0.33	0.040	2.80	5.00	720518	4
Beryllium	s	83-83	1(1)	NA	NA	2.20	2.20	830623	1
Cadmium	s	79-83	2(2)	NA	NA	0.33	0.44	790820	1
Cadmium	w	71-82	17(16)	0.00	0.200	10.00	10.00	780809	1
Chromium	w	69-82	28(8)	0.00	0.260	19.99	619.90	741023	1
Chromium	s	79-83	2(0)	NA	NA	205.95	392.00	830623	1
Copper	s	79-83	2(0)	NA	NA	22.90	41.40	830623	1
Copper	w	69-82	27(18)	0.00	0.250	10.00	19.99	700525	3
Lead	s	79-83	2(0)	NA	NA	41.45	78.50	830623	1
Lead	w	69-82	26(19)	-1.60	0.010	10.00	19.99	720215	2
Mercury	s	79-83	2(1)	NA	NA	0.13	0.18	830623	1
Mercury	w	70-82	24(22)	0.00	0.500	0.50	0.70	710414	1
Nickel	s	79-83	2(1)	NA	NA	8.75	13.10	830623	1
Nickel	w	82-82	1(1)	NA	NA	10.00	10.00	820707	1
Zinc	s	79-83	2(0)	NA	NA	89.60	142.00	830623	1
Zinc	w	69-82	27(15)	0.00	0.420	10.00	60.00	820707	1
Phenols	w	82-83	2(0)	NA	NA	0.00	0.00	830119	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Data	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	830623	1	8.70	8.70	0.00	NA	NA
Arsenic	w	780809	3	2.00	2.00	0.00	NA	858
Beryllium	s	830623	1	2.20	2.20	0.00	NA	NA
Cadmium	s	830623	1	0.22	0.22	0.00	NA	NA
Cadmium	w	820707	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	820707	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	830623	1	392.00	392.00	0.00	NA	NA
Copper	s	830623	1	41.40	41.40	0.00	NA	NA
Copper	w	820707	1	10.00	10.00	0.00	0.0077	NA
Lead	s	830623	1	78.50	78.50	0.00	NA	NA
Lead	w	820707	1	2.00	2.00	0.00	0.0409	NA
Mercury	s	830623	1	0.18	0.18	0.00	NA	NA
Mercury	w	820707	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	830623	1	13.10	13.10	0.00	NA	NA
Nickel	w	820707	1	10.00	10.00	0.00	0.0286	NA
Zinc	s	830623	1	142.00	142.00	0.00	NA	NA
Zinc	w	820707	1	60.00	60.00	0.00	0.0082	NA
Phenols	w	830119	2	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	South Fork Shenandoah	<u>Station</u> 1BSSF046.67
<u>R. Mile</u>	046.67	<u>Agency</u> VASWCB
<u>Location</u>	Route 675 Bridge W. of Luray, Page Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	10(9)	-0.46	0.050	2.50	5.00	720518	4
Cadmium	w	71-78	15(15)	0.00	0.380	10.00	10.00	780809	1
Chromium	w	70-78	24(17)	0.00	0.130	10.00	19.99	770829	2
Copper	w	70-78	22(16)	0.00	0.500	10.00	19.99	711205	3
Lead	w	70-78	21(14)	-1.33	0.020	10.00	59.99	720731	1
Mercury	w	70-78	22(20)	0.00	0.400	0.50	2.00	710414	1
Zinc	w	70-78	23(11)	0.00	0.500	10.00	100.00	780809	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780809	3	2.00	2.00	0.00	NA	858
Cadmium	w	780809	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780809	3	10.00	13.33	5.77	0.0572	NA
Copper	w	780809	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780809	3	2.00	1.67	0.58	0.0409	NA
Mercury	w	780809	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780809	2	55.00	55.00	63.64	0.0075	NA

<u>River</u>	South Fork Shenandoah	<u>Station</u> 1BSSF004.23
<u>R. Mile</u>	004.23	<u>Agency</u> VASWCB
<u>Location</u>	1 Mile Upstream of Route 619 Bridge, Warren Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-73	2(2)	NA	NA	3.00	5.00	720504	1
Cadmium	w	72-74	5(5)	NA	NA	10.00	10.00	740412	4
Chromium	w	72-74	7(5)	NA	NA	10.00	29.99	720731	1
Copper	w	72-74	7(6)	NA	NA	10.00	10.00	740412	7
Lead	w	72-74	7(4)	NA	NA	10.00	10.00	740412	7
Mercury	w	72-74	7(7)	NA	NA	0.50	0.50	740412	7
Zinc	w	72-74	15(8)	NA	NA	10.00	19.99	720706	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730807	1	1.00	1.00	0.00	NA	429
Cadmium	w	740412	3	10.00	7.00	5.20	0.9861	NA
Chromium	w	740412	4	10.00	10.00	0.00	0.0572	NA
Copper	w	740412	4	10.00	10.00	0.00	0.0077	NA
Lead	w	740412	4	10.00	10.00	0.00	0.2043	NA
Mercury	w	740412	4	0.50	0.50	0.00	0.0071	NA
Zinc	w	740412	10	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	South Fork Shenandoah	<u>Station</u>	1BSSF003.56
<u>R. Mile</u>	003.56	<u>Agency</u>	VASWCB
<u>Location</u>	Route 619 Bridge at Gaging Station, Warren Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	79-83	2(1)	NA	NA	26.70	42.00	790820	1
Arsenic	w	71-78	12(12)	-0.33	0.270	2.50	5.00	720504	5
Beryllium	s	83-83	1(1)	NA	NA	2.90	2.90	830627	1
Cadmium	s	79-79	1(1)	NA	NA	0.42	0.42	790820	1
Cadmium	w	71-82	16(16)	0.00	0.200	10.00	10.00	780809	1
Chromium	w	70-82	22(17)	0.00	0.120	10.00	29.99	720214	2
Chromium	s	79-83	2(0)	NA	NA	38.55	45.80	830627	1
Copper	s	79-83	2(0)	NA	NA	24.85	37.20	830627	1
Copper	w	70-82	22(18)	0.00	0.120	10.00	19.99	720214	3
Lead	s	79-83	2(0)	NA	NA	50.50	80.10	830627	1
Lead	w	70-82	23(11)	-1.00	0.050	10.00	45.99	750828	1
Mercury	s	79-83	2(1)	NA	NA	0.93	1.70	830627	1
Mercury	w	70-82	23(21)	0.00	0.500	0.50	1.30	710413	1
Nickel	s	79-83	2(0)	NA	NA	14.48	28.60	830627	1
Nickel	w	82-82	1(1)	NA	NA	10.00	10.00	820707	1
Zinc	s	79-83	2(0)	NA	NA	92.05	134.00	830627	1
Zinc	w	70-82	75(27)	0.00	0.010	10.00	200.00	781214	1
Phenols	w	74-83	3(0)	NA	NA	0.00	5.00	740509	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	830627	1	11.40	11.40	0.00	NA	NA
Arsenic	w	780809	3	2.00	2.00	0.00	NA	858
Beryllium	s	830627	1	2.90	2.90	0.00	NA	NA
Cadmium	s	790820	1	0.42	0.42	0.00	NA	NA
Cadmium	w	820707	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	820707	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	830627	1	45.80	45.80	0.00	NA	NA
Copper	s	830627	1	37.20	37.20	0.00	NA	NA
Copper	w	820707	1	10.00	10.00	0.00	0.0077	NA
Lead	s	830627	1	80.10	80.10	0.00	NA	NA
Lead	w	820707	1	2.00	2.00	0.00	0.0409	NA
Mercury	s	830627	1	1.70	1.70	0.00	NA	NA
Mercury	w	820707	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	830627	1	28.60	28.60	0.00	NA	NA
Nickel	w	820707	1	10.00	10.00	0.00	0.0286	NA
Zinc	s	830627	1	134.00	134.00	0.00	NA	NA
Zinc	w	820707	1	10.00	10.00	0.00	0.0014	NA
Phenols	w	830119	2	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	South Fork Shenandoah	<u>Station</u> 1BSSF000.58
<u>R. Mile</u>	000.58	<u>Agency</u> VASWCB
<u>Location</u>	Route 340/522 Bridge at Front Royal, Warren Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	83-85	6(3)	NA	NA	7.30	9.80	850814	1
Arsenic	s	79-85	3(1)	NA	NA	15.30	49.00	790820	1
Arsenic	w	71-85	25(14)	-0.29	0.030	2.00	6.00	810421	1
Beryllium	s	83-85	2(2)	NA	NA	5.00	7.60	850529	1
Cadmium	f	83-85	6(6)	NA	NA	0.10	0.11	830728	1
Cadmium-dwt	f	79-85	10(4)	NA	NA	0.33	0.40	850814	3
Cadmium	s	79-85	3(3)	NA	NA	0.49	0.80	850529	1
Cadmium	w	71-85	30(27)	0.00	0.020	10.00	40.00	791016	1
Chromium	w	69-85	38(25)	0.00	0.250	10.00	30.00	810326	2
Chromium	f	83-85	6(0)	NA	NA	0.35	0.85	830728	1
Chromium-dwt	f	79-85	10(0)	NA	NA	1.12	2.60	830728	1
Chromium	s	79-85	3(0)	NA	NA	28.90	35.90	850529	1
Copper	f	83-85	6(0)	NA	NA	2.95	5.90	850814	1
Copper-dwt	f	79-85	10(0)	NA	NA	7.79	200.00	850814	3
Copper	s	79-85	3(0)	NA	NA	22.20	29.80	850529	1
Copper	w	69-85	37(29)	0.00	0.100	10.00	29.99	690515	1
Lead	f	83-85	6(3)	NA	NA	1.50	3.00	830728	1
Lead-dwt	f	79-85	10(4)	NA	NA	4.21	9.50	830728	1
Lead	s	79-85	3(0)	NA	NA	39.10	62.70	830627	1
Lead	w	69-85	36(19)	-1.07	0.000	7.00	59.99	720214	1
Mercury	f	79-85	10(2)	NA	NA	0.11	0.20	850814	1
Mercury	s	79-85	3(1)	NA	NA	0.28	0.78	850529	1
Mercury	w	70-85	35(34)	-0.03	0.020	0.30	1.70	701116	1
Nickel	s	79-85	3(1)	NA	NA	16.90	22.90	850529	1
Nickel	w	79-85	17(11)	NA	NA	10.00	100.00	801223	3
Zinc	s	79-85	3(0)	NA	NA	434.00	862.20	850529	1
Zinc	w	67-85	72(4)	-0.55	0.460	89.99	859.90	771024	1
Aldrin	f	79-85	10(10)	NA	NA	0.01	1.00	790726	4
Alpha BHC	f	79-85	10(10)	NA	NA	0.01	1.00	790726	4
Gamma BHC(Lindane)	f	79-85	10(10)	NA	NA	0.01	1.00	790726	4
Lindane(organisms)	f	79-85	10(10)	NA	NA	0.01	1.00	790726	4
Chlordane	f	79-85	10(10)	NA	NA	0.01	1.00	790726	4
Dieldrin	f	79-85	10(10)	NA	NA	0.01	1.00	790726	4
Endrin	f	79-85	10(10)	NA	NA	0.01	1.00	790726	4
Hexachlorobenzene	f	79-85	10(10)	NA	NA	0.01	1.00	790726	4
PCB's	f	79-85	10(10)	NA	NA	0.01	1.00	790726	4
P,P'DDD	f	79-85	10(10)	NA	NA	0.01	1.00	790726	4
P,P'DDE	f	79-85	10(10)	NA	NA	0.01	1.00	790726	4
P,P'DDT	f	79-85	10(10)	NA	NA	0.01	1.00	790726	4
Pentachlorophenol	f	79-85	10(8)	NA	NA	0.01	3.50	790726	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

Station 1BSSF000.58 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	850814	3	9.70	9.43	0.55	NA	13511
Arsenic	s	850529	1	15.30	15.30	0.00	NA	NA
Arsenic	w	850529	1	1.00	1.00	0.00	NA	429
Beryllium	s	850529	1	7.60	7.60	0.00	NA	NA
Cadmium	f	850814	3	0.10	0.10	0.00	0.0320	NA
Cadmium-dwt	f	850814	3	0.40	0.40	0.00	NA	NA
Cadmium	s	850529	1	0.80	0.80	0.00	NA	NA
Cadmium	w	850529	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	850529	1	1.00	1.00	0.00	0.0057	NA
Chromium	f	850814	3	0.20	0.23	0.06	NA	NA
Chromium-dwt	f	850814	3	0.80	0.87	0.21	NA	NA
Chromium	s	850529	1	35.90	35.90	0.00	NA	NA
Copper	f	850814	3	4.70	5.00	0.79	0.0118	NA
Copper-dwt	f	850814	3	200.00	200.00	0.00	NA	NA
Copper	s	850529	1	29.80	29.80	0.00	NA	NA
Copper	w	850529	1	10.00	10.00	0.00	0.0077	NA
Lead	f	850814	3	1.00	1.00	0.00	0.0664	NA
Lead-dwt	f	850814	3	4.00	3.67	0.58	NA	NA
Lead	s	850529	1	38.20	38.20	0.00	NA	NA
Lead	w	850529	1	1.00	1.00	0.00	0.0204	NA
Mercury	f	850814	3	0.11	0.14	0.06	0.0051	NA
Mercury	s	850529	1	0.78	0.78	0.00	NA	NA
Mercury	w	850529	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	850529	1	22.90	22.90	0.00	NA	NA
Nickel	w	850529	1	10.00	10.00	0.00	0.0286	NA
Zinc	s	850529	1	862.20	862.20	0.00	NA	NA
Zinc	w	850529	1	30.00	30.00	0.00	0.0041	NA
Aldrin	f	850814	3	0.01	0.01	0.00	0.0310	11
Alpha BHC	f	850814	3	0.01	0.01	0.00	NA	10
Gamma BHC(Lindane)	f	850814	3	0.01	0.01	0.00	0.0031	1
Lindane(organisms)	f	850814	3	0.01	0.01	0.00	NA	NA
Chlordane	f	850814	3	0.01	0.01	0.00	0.0186	1
Dieldrin	f	850814	3	0.01	0.01	0.00	NA	28
Endrin	f	850814	3	0.01	0.01	0.00	NA	NA
Hexachlorobenzene	f	850814	3	0.01	0.01	0.00	NA	2
PCB's	f	850814	3	0.01	0.01	0.00	NA	4
P,P'DDD	f	850814	3	0.01	0.01	0.00	NA	NA
P,P'DDE	f	850814	3	0.01	0.01	0.00	NA	NA
P,P'DDT	f	850814	3	0.01	0.01	0.00	NA	NA
Pentachlorophenol	f	850814	3	0.01	0.01	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	South Fork Shenandoah River	<u>Station</u>	01631000
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Front Royal, Warren Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	72-72	1(0)	NA	NA	5.00	5.00	720516	1
Cadmium	s	72-72	1(0)	NA	NA	2.80	2.80	720516	1
Chromium	s	72-72	1(0)	NA	NA	85.00	85.00	720516	1
Copper	s	72-72	1(0)	NA	NA	16.00	16.00	720516	1
Lead	s	72-72	1(0)	NA	NA	20.00	20.00	720516	1
Mercury	s	72-72	1(0)	NA	NA	0.17	0.17	720516	1
Nickel	s	72-72	1(0)	NA	NA	4.40	4.40	720516	1
Zinc	s	72-72	1(0)	NA	NA	88.00	88.00	720516	1
Chlordane dwt	s	72-72	1(0)	NA	NA	10.00	10.00	720516	1
Dieldrin	s	72-72	1(0)	NA	NA	1.00	1.00	720516	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	720516	1	5.00	5.00	0.00	NA	NA
Cadmium	s	720516	1	2.80	2.80	0.00	NA	NA
Chromium	s	720516	1	85.00	85.00	0.00	NA	NA
Copper	s	720516	1	16.00	16.00	0.00	NA	NA
Lead	s	720516	1	20.00	20.00	0.00	NA	NA
Mercury	s	720516	1	0.17	0.17	0.00	NA	NA
Nickel	s	720516	1	4.40	4.40	0.00	NA	NA
Zinc	s	720516	1	88.00	88.00	0.00	NA	NA
Chlordane dwt	s	720516	1	10.00	10.00	0.00	NA	NA
Dieldrin	s	720516	1	1.00	1.00	0.00	NA	NA

<u>River</u>	Shenandoah River	<u>Station</u>	1BSHN054.22
<u>R. Mile</u>	054.22	<u>Agency</u>	VASWCB
<u>Location</u>	Opposite of Front Royal Country Club, Warren Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(10)	-0.38	0.310	2.00	5.00	720504	4
Cadmium	w	71-78	16(15)	0.00	0.340	10.00	10.00	780831	1
Chromium	w	70-78	23(17)	0.00	0.400	10.00	19.99	701116	2
Copper	w	70-78	23(15)	0.00	0.120	10.00	19.99	711206	1
Lead	w	70-78	20(12)	-0.54	0.170	10.00	69.99	720214	1
Mercury	w	70-78	22(20)	0.00	0.500	0.50	1.30	710413	1
Zinc	w	70-79	76(16)	0.00	0.030	29.99	399.90	741021	1
Phenols	w	74-74	1(0)	NA	NA	2.00	2.00	740509	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780831	2	2.00	2.00	0.00	NA	858
Cadmium	w	780831	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780831	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780831	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780831	2	7.00	7.00	1.41	0.1430	NA
Mercury	w	780831	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	790302	6	30.00	35.00	22.58	0.0041	NA
Phenols	w	740509	1	2.00	2.00	0.00	0.0006	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Happy Creek	<u>Station</u> 1BHPY002.60
<u>R. Mile</u>	002.60	<u>Agency</u> VASWCB
<u>Location</u>	Route 55 Bridge at Front Royal, Warren Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	12(10)	-0.33	0.420	4.00	30.99	760823	1
Cadmium	w	71-78	16(15)	0.00	0.230	10.00	10.00	780809	1
Chromium	w	70-78	23(16)	0.00	0.130	10.00	79.99	760823	1
Copper	w	70-78	22(15)	0.00	0.300	10.00	29.99	700526	1
Lead	w	70-78	21(9)	-1.17	0.050	10.00	29.99	720214	1
Mercury	w	70-78	22(20)	0.00	0.440	0.50	2.20	710413	1
Zinc	w	70-78	22(12)	0.00	0.500	10.00	169.90	760823	1
Dieldrin	w	71-71	1(0)	NA	NA	0.01	0.01	710502	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780809	3	2.00	2.33	0.58	NA	858
Cadmium	w	780809	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780809	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780809	3	10.00	10.00	0.00	0.0077	NA
Lead	w	780809	3	4.00	3.67	1.53	0.0817	NA
Mercury	w	780809	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780809	2	10.00	10.00	0.00	0.0014	NA
Dieldrin	w	710502	1	0.01	0.01	0.00	NA	9

<u>River</u>	Happy Creek	<u>Station</u> 1BHPY000.10
<u>R. Mile</u>	000.10	<u>Agency</u> VASWCB
<u>Location</u>	Riverton Junction, Warren Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(10)	-0.33	0.270	2.00	5.00	720504	4
Cadmium	w	71-78	15(14)	0.00	0.200	10.00	10.00	780809	1
Chromium	w	70-78	22(17)	0.00	0.120	10.00	19.99	701116	1
Copper	w	70-78	22(9)	0.00	0.500	10.00	59.99	760823	1
Lead	w	70-78	19(10)	-0.90	0.290	10.00	39.99	741023	1
Mercury	w	70-78	21(17)	0.00	0.500	0.50	0.90	710413	1
Zinc	w	70-78	22(11)	0.00	0.400	10.00	109.90	760823	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780809	3	2.00	2.00	0.00	NA	858
Cadmium	w	780809	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	780809	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780809	3	10.00	16.66	11.54	0.0077	NA
Lead	w	780809	3	9.00	7.33	4.72	0.1839	NA
Mercury	w	780809	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780809	2	20.00	20.00	14.14	0.0027	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Stephens Run	<u>Station</u>	1BSTV002.92
<u>R. Mile</u>	002.92	<u>Agency</u>	VASWCB
<u>Location</u>	Route 640 Bridge below Stephens City, Fredrick Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	11(8)	-0.38	0.310	2.00	10.00	720504	1
Cadmium	w	71-78	16(16)	0.00	0.340	10.00	10.00	780831	1
Chromium	w	70-78	23(16)	0.00	0.120	10.00	10.00	780831	1
Copper	w	70-78	22(15)	0.00	0.120	10.00	29.99	711206	1
Lead	w	70-78	20(15)	0.00	0.420	10.00	39.99	780109	1
Mercury	w	70-78	22(20)	0.00	0.430	0.50	0.90	710414	1
Zinc	w	70-79	73(29)	0.00	0.050	10.00	179.90	740925	1
Chlordane	w	75-75	1(0)	NA	NA	0.59	0.59	750421	1
Dieldrin	w	71-71	1(0)	NA	NA	0.02	0.02	710502	1
Phenols	w	74-74	2(0)	NA	NA	3.50	5.00	740215	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780831	2	2.00	2.00	0.00	NA	858
Cadmium	w	780831	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780831	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780831	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780831	2	32.49	32.49	10.60	0.6638	NA
Mercury	w	780831	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	790302	6	10.00	13.33	8.16	0.0014	NA
Chlordane	w	750421	1	0.59	0.59	0.00	0.3374	27
Dieldrin	w	710502	1	0.02	0.02	0.00	NA	17
Phenols	w	740416	2	3.50	3.50	2.12	0.0010	NA

<u>River</u>	Shenandoah River	<u>Station</u>	1BSHN048.00
<u>R. Mile</u>	048.00	<u>Agency</u>	VASWCB
<u>Location</u>	Route 624 Bridge, Warren Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	12(11)	-0.38	0.310	2.50	53.99	720504	1
Cadmium	w	71-78	14(12)	0.00	0.310	10.00	10.00	780831	1
Chromium	w	69-78	24(18)	0.00	0.170	10.00	39.99	700407	1
Copper	w	69-78	24(15)	0.00	0.340	10.00	29.99	700326	1
Lead	w	69-78	22(15)	-1.33	0.050	10.00	59.99	690811	1
Mercury	w	70-78	21(16)	0.00	0.500	0.50	2.20	700910	1
Zinc	w	68-79	82(10)	0.00	0.430	34.99	179.90	741021	1
Phenols	w	74-74	1(0)	NA	NA	3.00	3.00	740509	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780831	2	2.00	2.00	0.00	NA	858
Cadmium	w	780831	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780831	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780831	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780831	2	5.50	5.50	2.12	0.1124	NA
Mercury	w	780831	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	790302	6	45.00	50.00	36.33	0.0061	NA
Phenols	w	740509	1	3.00	3.00	0.00	0.0009	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Shenandoah River	<u>Station</u> 1BSHN038.27
<u>R. Mile</u>	038.27	<u>Agency</u> VASWCB
<u>Location</u>	Route 50 Bridge, Clarke Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	12(10)	-0.38	0.310	2.50	5.00	720504	5
Cadmium	w	71-78	16(15)	0.00	0.100	10.00	24.99	750421	1
Chromium	w	69-78	27(19)	0.00	0.110	10.00	19.99	720214	2
Copper	w	69-78	26(21)	0.00	0.360	10.00	29.99	711206	2
Lead	w	69-78	26(16)	-1.60	0.000	10.00	29.99	730112	2
Mercury	w	70-78	22(21)	0.00	0.430	0.50	4.50	710413	1
Zinc	w	67-79	83(10)	0.00	0.270	29.99	500.00	720804	1
Chlordane	w	75-75	1(0)	NA	NA	0.00	0.00	750421	1
Dieldrin	w	71-71	1(0)	NA	NA	0.01	0.01	710325	1
Phenols	w	74-74	1(0)	NA	NA	2.00	2.00	740509	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780831	2	2.00	2.00	0.00	NA	858
Cadmium	w	780831	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780831	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780831	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780831	2	5.50	5.50	4.95	0.1124	NA
Mercury	w	780831	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	790302	6	25.00	35.00	25.88	0.0034	NA
Chlordane	w	750421	1	0.00	0.00	0.00	0.0006	NA
Dieldrin	w	710325	1	0.01	0.01	0.00	NA	9
Phenols	w	740509	1	2.00	2.00	0.00	0.0006	NA

<u>River</u>	Shenandoah River	<u>Station</u> 01636290
<u>R. Mile</u>		<u>Agency</u> USGS
<u>Location</u>	Hwy 50 Bridge 5 miles S.E. of Millwood, Clarke Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	76-76	1(0)	NA	NA	6.00	6.00	760831	1
Arsenic	w	76-76	1(0)	NA	NA	1.00	1.00	760831	1
Chromium	w	72-76	3(2)	NA	NA	20.00	20.00	760831	3
Chromium	s	76-76	1(0)	NA	NA	10.00	10.00	760831	1
Lead	s	76-76	1(0)	NA	NA	20.00	20.00	760831	1
Lead	w	76-76	1(0)	NA	NA	9.00	9.00	760831	1
Mercury	s	76-76	1(0)	NA	NA	0.10	0.10	760831	1
Mercury	w	76-76	1(1)	NA	NA	0.50	0.50	760831	1
Nickel	s	76-76	1(0)	NA	NA	10.00	10.00	760831	1
Selenium	w	76-76	1(1)	NA	NA	1.00	1.00	760831	1
Zinc	s	76-76	1(0)	NA	NA	190.00	190.00	760831	1
Zinc	w	76-76	1(0)	NA	NA	30.00	30.00	760831	1
Cyanide	w	73-73	1(0)	NA	NA	0.01	0.01	730315	1
Dieldrin	s	72-72	1(0)	NA	NA	0.20	0.20	720516	1
Phenols	w	72-73	4(0)	NA	NA	22.50	25.00	731227	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

Station 01636290 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	760831	1	6.00	6.00	0.00	NA	NA
Arsenic	w	760831	1	1.00	1.00	0.00	NA	429
Chromium	w	760831	1	20.00	20.00	0.00	0.1144	NA
Chromium	s	760831	1	10.00	10.00	0.00	NA	NA
Lead	s	760831	1	20.00	20.00	0.00	NA	NA
Lead	w	760831	1	9.00	9.00	0.00	0.1839	NA
Mercury	s	760831	1	0.10	0.10	0.00	NA	NA
Mercury	w	760831	1	0.50	0.50	0.00	0.0072	NA
Nickel	s	760831	1	10.00	10.00	0.00	NA	NA
Selenium	w	760831	1	1.00	1.00	0.00	0.0095	NA
Zinc	s	760831	1	190.00	190.00	0.00	NA	NA
Zinc	w	760831	1	30.00	30.00	0.00	0.0041	NA
Cyanide	w	730315	1	0.01	0.01	0.00	NA	NA
Dieldrin	s	720516	1	0.20	0.20	0.00	NA	NA
Phenols	w	731227	2	23.50	23.50	2.12	0.0067	NA

<u>River</u>	Long Marsh Run	<u>Station</u>	1BLMN004.84
<u>R. Mile</u>	004.84	<u>Agency</u>	VASWCB
<u>Location</u>	Route 612 Bridge N.E. of Berryville, Clarke Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-73	7(6)	NA	NA	5.00	6.00	710325	1
Cadmium	w	71-74	9(9)	-4.50	0.270	10.00	10.00	740416	8
Chromium	w	70-74	17(11)	0.00	0.500	10.00	19.99	710413	1
Copper	w	70-74	16(11)	0.00	0.500	10.00	19.99	711206	1
Lead	w	70-74	15(11)	0.00	0.500	10.00	19.99	720214	1
Mercury	w	70-74	16(15)	0.00	0.500	0.50	1.20	710413	1
Zinc	w	70-74	17(11)	0.00	0.270	10.00	29.99	710809	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730808	1	1.00	1.00	0.00	NA	429
Cadmium	w	740416	2	5.50	5.50	6.36	0.5424	NA
Chromium	w	740416	4	10.00	10.00	0.00	0.0572	NA
Copper	w	740416	4	10.00	10.00	0.00	0.0077	NA
Lead	w	740416	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740416	4	0.50	0.50	0.00	0.0071	NA
Zinc	w	740416	4	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Dog Run	<u>Station</u> 1BDGR004.02
<u>R. Mile</u>	004.02	<u>Agency</u> VASWCB
<u>Location</u>	Upstream of Town of Berryville STP, Clarke Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-78	7(6)	0.20	0.500	2.00	5.00	720508	1
Cadmium	w	72-78	9(9)	1.80	0.150	10.00	12.99	750421	1
Chromium	w	72-78	13(11)	0.00	0.270	10.00	10.00	780831	1
Copper	w	72-78	13(11)	0.00	0.270	10.00	1799.00	760330	1
Lead	w	72-78	12(5)	1.20	0.270	10.00	37.99	760330	1
Mercury	w	72-78	13(13)	-0.04	0.500	0.50	0.50	780109	6
Zinc	w	72-79	42(11)	0.00	0.090	14.99	239.90	741106	1
Phenols	w	74-74	2(0)	NA	NA	9.50	12.00	740215	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780831	2	2.50	2.50	0.71	NA	1073
Cadmium	w	780831	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780831	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780831	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780831	2	13.99	13.99	2.84	0.2859	NA
Mercury	w	780831	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	790302	5	20.00	26.00	20.74	0.0027	NA
Phenols	w	740416	2	9.50	9.50	3.54	0.0027	NA

<u>River</u>	Dog Run	<u>Station</u> 1BDGR003.91
<u>R. Mile</u>	003.91	<u>Agency</u> VASWCB
<u>Location</u>	Town of Berryville STP, Clarke Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-73	2(2)	NA	NA	3.00	5.00	720504	1
Cadmium	w	72-74	3(1)	NA	NA	10.00	13.99	730808	1
Chromium	w	72-74	6(6)	NA	NA	10.00	10.00	740416	6
Copper	w	72-74	6(4)	NA	NA	10.00	10.00	740416	6
Lead	w	72-74	5(3)	NA	NA	10.00	29.99	720504	1
Mercury	w	72-74	6(6)	NA	NA	0.50	0.50	740416	6
Zinc	w	72-74	14(3)	NA	NA	14.99	39.99	730925	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730808	1	1.00	1.00	0.00	NA	429
Cadmium	w	740416	2	11.99	11.99	2.82	1.1829	NA
Chromium	w	740416	4	10.00	10.00	0.00	0.0572	NA
Copper	w	740416	4	10.00	10.00	0.00	0.0077	NA
Lead	w	740416	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740416	4	0.50	0.50	0.00	0.0071	NA
Zinc	w	740416	8	10.00	15.00	10.69	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Dog Run	<u>Station</u>	1BDGR000.47
<u>R. Mile</u>	000.47	<u>Agency</u>	VASWCB
<u>Location</u>	Route 608 Bridge, Clarke Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-73	6(6)	NA	NA	5.00	5.00	720504	5
Cadmium	w	71-74	8(7)	-4.50	0.270	10.00	10.00	740416	7
Chromium	w	70-74	16(9)	0.00	0.500	10.00	39.99	720804	1
Copper	w	70-74	15(8)	0.00	0.270	10.00	19.99	711206	3
Lead	w	70-74	14(9)	0.00	0.500	10.00	19.99	720504	1
Mercury	w	70-74	15(14)	0.00	0.500	0.50	1.50	710413	1
Zinc	w	70-74	33(8)	-9.99	0.140	19.99	79.99	710201	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730808	1	1.00	1.00	0.00	NA	429
Cadmium	w	740416	2	5.50	5.50	6.36	0.5424	NA
Chromium	w	740416	4	10.00	10.00	0.00	0.0572	NA
Copper	w	740416	4	10.00	10.00	0.00	0.0077	NA
Lead	w	740416	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740416	4	0.50	0.50	0.00	0.0071	NA
Zinc	w	740416	10	14.99	21.99	15.49	0.0020	NA

<u>River</u>	Dog Run	<u>Station</u>	1BDGR000.23
<u>R. Mile</u>	000.23	<u>Agency</u>	VASWCB
<u>Location</u>	Route 621 Bridge near Berryville, Clarke Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	12(12)	-0.38	0.310	2.50	5.00	720504	5
Cadmium	w	71-78	16(15)	0.00	0.500	10.00	13.99	730808	1
Chromium	w	70-78	26(21)	0.00	0.120	10.00	10.00	780831	1
Copper	w	70-78	25(18)	0.00	0.500	10.00	19.99	710325	4
Lead	w	70-78	25(13)	-0.20	0.280	10.00	19.99	750123	3
Mercury	w	70-78	25(23)	0.00	0.500	0.50	2.40	701014	1
Zinc	w	70-79	77(27)	0.00	0.290	10.00	159.90	740925	1
Phenols	w	74-74	2(0)	NA	NA	9.00	10.00	740215	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780831	2	2.00	2.00	0.00	NA	858
Cadmium	w	780831	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	780831	2	10.00	10.00	0.00	0.0572	NA
Copper	w	780831	2	10.00	10.00	0.00	0.0077	NA
Lead	w	780831	2	11.99	11.99	0.01	0.2450	NA
Mercury	w	780831	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	790302	5	10.00	14.00	8.94	0.0014	NA
Phenols	w	740416	2	9.00	9.00	1.41	0.0026	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Shenandoah River	<u>Station</u>	1BSHN022.63
<u>R. Mile</u>	022.63	<u>Agency</u>	VASWCB
<u>Location</u>	Route 7 Bridge, Clarke Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	87-87	3(3)	NA	NA	0.20	0.20	870716	3
Arsenic	s	79-83	2(1)	NA	NA	30.75	50.00	790830	1
Arsenic	w	71-82	13(13)	-0.38	0.310	2.00	5.00	720504	5
Beryllium	s	83-83	1(1)	NA	NA	2.30	2.30	830608	1
Cadmium	f	87-87	3(3)	NA	NA	0.20	0.20	870716	3
Cadmium	s	79-83	2(2)	NA	NA	0.36	0.50	790830	1
Cadmium	w	71-82	17(15)	0.00	0.340	10.00	10.00	780831	1
Chromium	w	69-82	29(23)	0.00	0.330	10.00	19.99	700407	1
Chromium	f	87-87	3(0)	NA	NA	4.70	5.20	870716	1
Chromium	s	79-83	2(0)	NA	NA	19.20	22.90	830608	1
Copper	f	87-87	3(0)	NA	NA	0.60	1.00	870716	1
Copper	s	79-83	2(0)	NA	NA	21.85	25.20	830608	1
Copper	w	69-82	28(20)	0.00	0.500	10.00	29.99	690811	1
Lead	f	87-87	3(3)	NA	NA	2.00	2.00	870716	3
Lead	s	79-83	2(0)	NA	NA	99.45	119.00	830608	1
Lead	w	69-82	28(17)	-1.37	0.000	10.00	19.99	711206	2
Mercury	s	79-83	2(1)	NA	NA	0.25	0.26	790830	1
Mercury	w	70-82	26(25)	0.00	0.300	0.50	0.80	701014	1
Nickel	s	79-83	2(0)	NA	NA	16.45	22.90	830608	1
Nickel	w	82-82	1(1)	NA	NA	10.00	10.00	820701	1
Zinc	f	87-87	3(0)	NA	NA	13.00	14.00	870716	1
Zinc	s	79-83	2(0)	NA	NA	198.45	247.00	830608	1
Zinc	w	69-82	81(11)	0.00	0.390	20.00	799.90	720804	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830608	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	870716	3	0.20	0.20	0.00	NA	279
Arsenic	s	830608	1	11.50	11.50	0.00	NA	NA
Arsenic	w	820701	1	1.00	1.00	0.00	NA	429
Beryllium	s	830608	1	2.30	2.30	0.00	NA	NA
Cadmium	f	870716	3	0.20	0.20	0.00	0.0641	NA
Cadmium	s	830608	1	0.23	0.23	0.00	NA	NA
Cadmium	w	820701	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	820701	1	1.00	1.00	0.00	0.0057	NA
Chromium	f	870716	3	4.70	3.97	1.72	NA	NA
Chromium	s	830608	1	22.90	22.90	0.00	NA	NA
Copper	f	870716	3	0.60	0.73	0.23	0.0015	NA
Copper	s	830608	1	25.20	25.20	0.00	NA	NA
Copper	w	820701	1	10.00	10.00	0.00	0.0077	NA
Lead	f	870716	3	2.00	2.00	0.00	0.1327	NA
Lead	s	830608	1	119.00	119.00	0.00	NA	NA
Lead	w	820701	1	2.00	2.00	0.00	0.0409	NA
Mercury	s	830608	1	0.23	0.23	0.00	NA	NA
Mercury	w	820701	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	830608	1	22.90	22.90	0.00	NA	NA
Nickel	w	820701	1	10.00	10.00	0.00	0.0286	NA
Zinc	f	870716	3	13.00	10.67	4.93	0.0058	NA
Zinc	s	830608	1	247.00	247.00	0.00	NA	NA
Zinc	w	820701	1	90.00	90.00	0.00	0.0123	NA
Aldrin	s	830608	1	0.02	0.02	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Shenandoah River	<u>Station</u>	550472
<u>R. Mile</u>	169.70-17.48	<u>Agency</u>	WVDNR
<u>Location</u>	County Route 25/7 near Meyerstown, Jefferson Co., W.Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Antimony	w	79-84	11(3)	12.50	0.360	80.00	160.00	840306	1
Arsenic	w	71-84	37(30)	0.00	0.190	2.00	30.00	840918	3
Cadmium	f	83-83	2(2)	NA	NA	0.05	0.05	831017	2
Cadmium	w	71-84	126(116)	0.00	0.130	4.00	20.00	740611	1
Chromium	w	74-84	55(34)	0.00	0.010	4.00	50.00	741210	1
Chromium+6	w	68-84	145(90)	0.00	0.020	1.00	100.00	701208	1
Chromium	f	83-83	2(0)	NA	NA	0.49	0.50	831017	1
Copper	f	83-83	2(0)	NA	NA	1.15	1.29	831017	1
Copper	w	71-84	49(17)	-0.50	0.010	8.00	20.00	751104	2
Lead	f	83-83	2(0)	NA	NA	2.50	3.00	831017	1
Lead	w	71-84	132(107)	0.00	0.310	30.00	152.00	710420	1
Mercury	f	82-83	4(0)	NA	NA	0.16	0.18	831017	2
Mercury	w	70-84	64(57)	0.00	0.060	0.20	1.00	700901	1
Nickel	w	74-84	28(23)	0.00	0.410	40.00	40.00	840918	22
Selenium	w	75-84	26(24)	0.00	0.500	1.00	3.00	760128	1
Silver	w	71-84	42(34)	0.00	0.280	4.00	23.00	770308	1
Zinc	f	83-83	2(0)	NA	NA	16.30	17.60	831017	1
Zinc	w	72-84	57(4)	-4.00	0.050	44.00	220.00	750429	1
Aldrin	f	83-83	2(2)	NA	NA	0.01	0.01	831017	2
Alpha BHC	f	83-83	2(2)	NA	NA	0.01	0.01	831017	2
Cyanide	w	74-84	40(7)	0.00	0.500	0.00	0.01	801104	1
Dieldrin	f	83-83	1(1)	NA	NA	0.01	0.01	831017	1
Endrin	f	83-83	2(2)	NA	NA	0.01	0.01	831017	2
Heptachlor Epoxide	f	83-83	2(1)	NA	NA	0.02	0.02	831017	1
PCB1260	f	83-83	2(0)	NA	NA	0.25	0.25	831017	2
P,P'DDD	f	83-83	1(0)	NA	NA	0.02	0.02	831017	1
P,P'DDE	f	83-83	2(0)	NA	NA	0.41	0.49	831017	1
Phenols	w	82-84	24(13)	0.50	0.270	1.00	60.00	840606	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Antimony	w	840306	2	150.00	150.00	14.14	10.7250	NA
Arsenic	w	840918	3	30.00	30.00	0.00	NA	12870
Cadmium	f	831017	2	0.05	0.05	0.00	0.0160	NA
Cadmium	w	841002	10	4.00	4.00	0.00	0.3945	NA
Chromium	w	840918	4	4.00	4.50	1.00	0.0229	NA
Chromium+6	w	841002	10	1.00	1.80	1.32	0.0057	NA
Chromium	f	831017	2	0.49	0.49	0.01	NA	NA
Copper	f	831017	2	1.15	1.15	0.21	0.0029	NA
Copper	w	840918	4	4.00	5.00	2.00	0.0031	NA
Lead	f	831017	2	2.50	2.50	0.71	0.1659	NA
Lead	w	841002	12	40.00	40.00	0.00	0.8171	NA
Mercury	f	831017	4	0.16	0.14	0.06	0.0072	NA
Mercury	w	840918	2	0.20	0.20	0.00	0.0029	NA
Nickel	w	840918	1	40.00	40.00	0.00	0.1144	NA
Selenium	w	840918	2	1.00	1.00	0.00	0.0095	NA
Silver	w	840918	2	4.00	4.00	0.00	0.0381	NA
Zinc	f	831017	2	16.30	16.30	1.84	0.0072	NA
Zinc	w	840918	2	35.50	35.50	12.02	0.0048	NA
Aldrin	f	831017	2	0.01	0.01	0.00	0.0310	11
Alpha BHC	f	831017	2	0.01	0.01	0.00	NA	10
Cyanide	w	840806	3	0.00	0.00	0.00	0.0000	NA
Dieldrin	f	831017	1	0.01	0.01	0.00	NA	28
Endrin	f	831017	2	0.01	0.01	0.00	NA	NA
Heptachlor Epoxide	f	831017	2	0.02	0.02	0.01	0.0464	4
PCB1260	f	831017	2	0.25	0.25	0.00	NA	101
P,P'DDD	f	831017	1	0.02	0.02	0.00	NA	NA
P,P'DDE	f	831017	2	0.41	0.41	0.12	NA	NA
Phenols	w	841002	11	2.00	6.91	17.62	0.0006	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Shenandoah River	<u>Station</u>	01636500
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Millville, Jefferson Co., W.Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	72-76	2(1)	NA	NA	2.50	4.00	760831	1
Arsenic	w	76-82	9(0)	NA	NA	1.00	2.00	820920	3
Cadmium	s	72-72	1(0)	NA	NA	0.60	0.60	720517	1
Cadmium	w	76-82	5(2)	NA	NA	1.00	3.00	820315	1
Chromium	w	76-82	10(1)	NA	NA	10.00	30.00	820315	1
Chromium	s	72-76	2(0)	NA	NA	14.95	20.00	760831	1
Copper	s	72-76	2(0)	NA	NA	13.60	20.00	760831	1
Copper	w	76-84	11(1)	NA	NA	5.00	45.00	811102	1
Lead	s	72-76	2(0)	NA	NA	85.00	140.00	720517	1
Lead	w	76-82	10(0)	NA	NA	6.50	79.00	811102	1
Mercury	s	72-76	2(0)	NA	NA	0.17	0.30	760831	1
Mercury	w	76-82	10(7)	NA	NA	0.10	0.50	760831	1
Nickel	s	72-76	2(0)	NA	NA	11.45	20.00	760831	1
Nickel	w	79-82	8(0)	NA	NA	4.00	7.00	801112	1
Selenium	w	76-82	5(5)	NA	NA	1.00	1.00	820920	5
Silver	w	81-82	4(4)	NA	NA	1.00	1.00	820920	4
Zinc	s	72-76	2(0)	NA	NA	530.00	580.00	720517	1
Zinc	w	76-82	10(0)	NA	NA	35.00	90.00	811102	1
Dieldrin	s	72-72	1(0)	NA	NA	0.80	0.80	720517	1
Phenols	w	61-61	1(0)	NA	NA	0.20	0.20	610418	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	760831	1	4.00	4.00	0.00	NA	NA
Arsenic	w	820920	4	1.50	1.50	0.58	NA	644
Cadmium	s	720517	1	0.60	0.60	0.00	NA	NA
Cadmium	w	820920	4	1.00	1.50	1.00	0.0986	NA
Chromium	w	820920	4	15.00	17.50	9.57	0.0858	NA
Chromium	s	760831	1	20.00	20.00	0.00	NA	NA
Copper	s	760831	1	20.00	20.00	0.00	NA	NA
Copper	w	840123	1	3.00	3.00	0.00	0.0023	NA
Lead	s	760831	1	30.00	30.00	0.00	NA	NA
Lead	w	820920	4	6.50	23.50	37.06	0.1328	NA
Mercury	s	760831	1	0.30	0.30	0.00	NA	NA
Mercury	w	820920	4	0.10	0.13	0.05	0.0014	NA
Nickel	s	760831	1	20.00	20.00	0.00	NA	NA
Nickel	w	820920	4	4.00	3.75	0.50	0.0114	NA
Selenium	w	820920	4	1.00	1.00	0.00	0.0095	NA
Silver	w	820920	4	1.00	1.00	0.00	0.0095	NA
Zinc	s	760831	1	480.00	480.00	0.00	NA	NA
Zinc	w	820920	4	50.00	52.50	29.86	0.0068	NA
Dieldrin	s	720517	1	0.80	0.80	0.00	NA	NA
Phenols	w	610418	1	0.20	0.20	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
IV. SHENANDOAH RIVER BASIN

<u>River</u>	Shenandoah River	<u>Station</u>	550471
<u>R. Mile</u>	169.70-.80	<u>Agency</u>	WVDNR
<u>Location</u>	U.S. Route 340 Highway Bridge, Jefferson Co., W.Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Antimony	w	79-84	10(4)	0.00	0.340	60.00	140.00	840326	1
Arsenic	w	71-84	37(29)	0.00	0.230	2.00	30.00	840918	3
Cadmium	w	71-84	126(120)	0.00	0.020	4.00	20.00	740611	1
Chromium	w	74-84	54(35)	0.00	0.000	4.00	560.00	760615	1
Chromium+6	w	68-84	153(97)	0.00	0.000	1.00	11.00	781003	1
Copper	w	71-84	49(14)	-0.62	0.000	8.00	28.00	770503	1
Lead	w	71-84	132(102)	0.00	0.130	30.00	100.00	761116	6
Mercury	w	70-84	64(60)	0.00	0.390	0.20	2.00	840918	1
Nickel	w	74-84	29(24)	0.00	0.080	40.00	180.00	760615	1
Selenium	w	75-84	22(19)	0.00	0.500	1.00	4.00	760518	1
Silver	w	71-84	43(34)	0.00	0.500	4.00	12.00	770802	1
Zinc	w	72-84	57(4)	-4.00	0.070	44.00	2250.00	820907	1
Cyanide	w	74-84	40(8)	0.00	0.470	0.00	0.01	770802	1
Phenols	w	82-84	24(15)	0.50	0.270	1.00	2.00	841002	6

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Antimony	w	840326	2	90.00	90.00	70.71	6.4350	NA
Arsenic	w	840918	3	30.00	30.00	0.00	NA	12870
Cadmium	w	841002	10	4.00	4.00	0.00	0.3945	NA
Chromium	w	840918	4	4.00	4.00	0.00	0.0229	NA
Chromium+6	w	841002	10	1.00	1.70	1.16	0.0057	NA
Copper	w	840918	4	4.00	5.00	2.00	0.0031	NA
Lead	w	841002	12	40.00	40.00	0.00	0.8171	NA
Mercury	w	840918	2	1.10	1.10	1.27	0.0157	NA
Nickel	w	840918	2	40.00	40.00	0.00	0.1144	NA
Selenium	w	840918	1	1.00	1.00	0.00	0.0095	NA
Silver	w	840918	2	4.00	4.00	0.00	0.0381	NA
Zinc	w	840918	2	34.50	34.50	4.95	0.0047	NA
Cyanide	w	840806	3	0.00	0.00	0.00	0.0000	NA
Phenols	w	841002	11	1.00	1.45	0.52	0.0003	NA

<u>River</u>	Shenandoah	<u>Station</u>	SHN0002
<u>R. Mile</u>	.20	<u>Agency</u>	MDOEP
<u>Location</u>	Along river on Harpers Ferry side 5.0 miles below gage.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	2(2)	NA	NA	0.03	0.03	740730	2
Chromium	w	74-74	2(2)	NA	NA	0.10	0.10	740730	2
Copper	w	74-74	2(2)	NA	NA	0.10	0.10	740730	2
Lead	w	74-74	2(2)	NA	NA	0.50	0.50	740730	2
Mercury	w	74-74	2(2)	NA	NA	0.00	0.00	740730	2

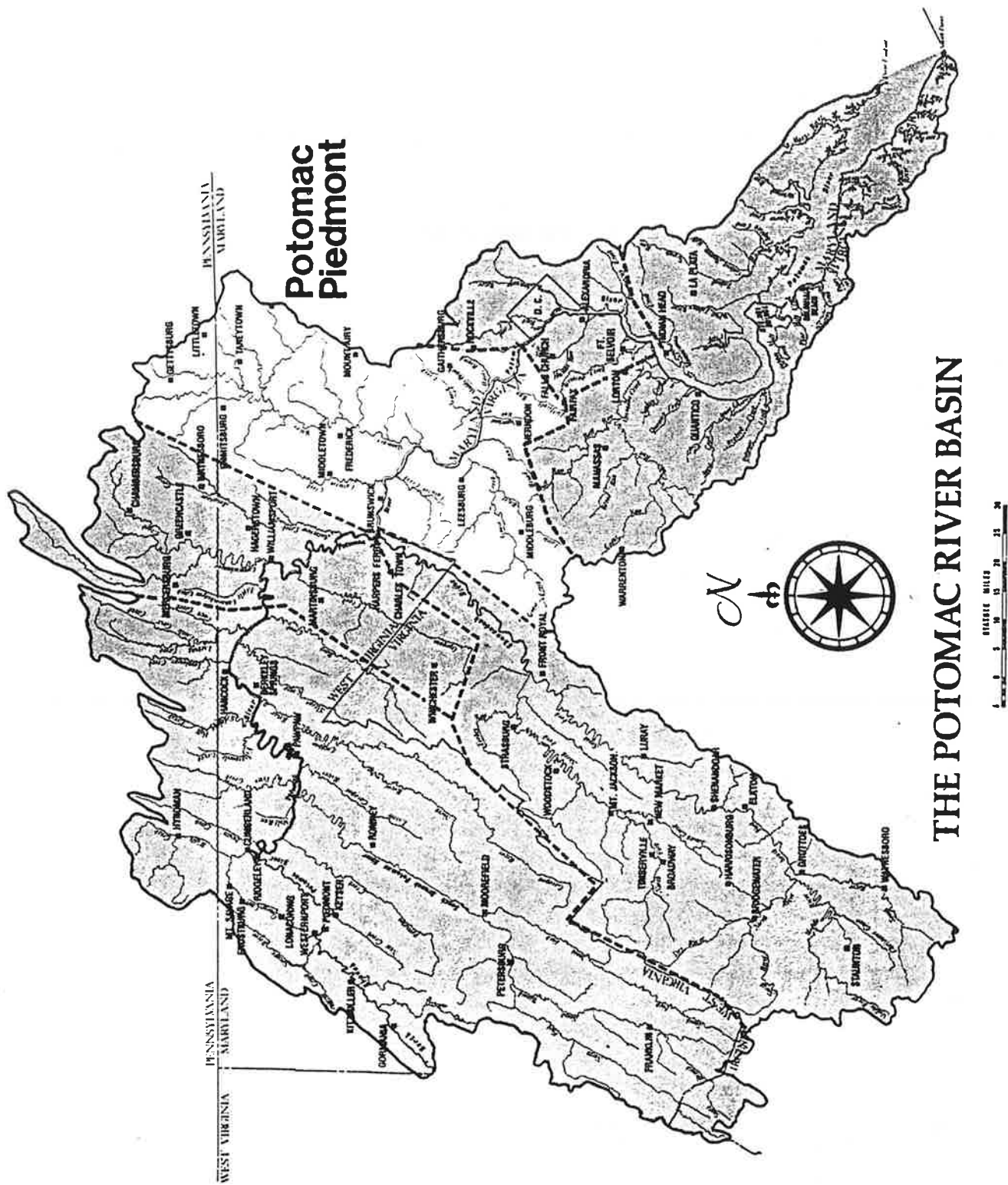
STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740730	2	0.03	0.03	0.00	0.0030	NA
Chromium	w	740730	2	0.10	0.10	0.00	0.0006	NA
Copper	w	740730	2	0.10	0.10	0.00	0.0001	NA
Lead	w	740730	2	0.50	0.50	0.00	0.0102	NA
Mercury	w	740730	2	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

V. POTOMAC PIEDMONT

Map 5.



STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

V. POTOMAC PIEDMONT

The Potomac Piedmont subdivision includes the 53 miles (85 km) of main stem Potomac River from the mouth of the Shenandoah River at Harpers Ferry, West Virginia, to Little Falls, Maryland, just upstream of Washington, DC. Included in this subdivision are the densely populated suburban Washington areas in Montgomery County, Maryland, and Fairfax County, Virginia; and the "fringe" expansion counties of Carroll, Washington, and Frederick in Maryland, and Loudoun County in Virginia. The major tributaries to the Potomac in this subdivision include: the Monocacy River, Tuscarora Creek, and Goose Creek.

Potomac Main Stem and Smaller Tributaries

The main stem Potomac stations in this subdivision include several strategic points along the river and the raw water intakes of the three major Metropolitan Washington area water utilities. Many smaller tributaries contribute to the Potomac in this subdivision. Those with available water quality sampling data are:

- Duchman Creek
- Catoctin Creek (Maryland)
- North Fork Catoctin Creek (Virginia)
- South Fork Catoctin Creek (Virginia)
- Catoctin Creek (Virginia)
- Tuscarora Creek (Maryland)
- North Fork Broad Run
- Broad Run
- Sugarland Run
- Horsepen Run
- Seneca Creek and tributaries
- Difficult Run

Water quality data were available for 13 stations (see tables pp. V-6, 8, 12-14, 42, 57, 63-64, 67) on the Potomac main stem in the Piedmont. A significant declining trend was determined for Lead at the Potomac River station near Harpers Ferry, whereas the trend in Copper concentration was increasing downstream at Whites Ferry. All parameter concentration trends determined from water utility data were decreasing. They include Barium, Chromium, Copper, and Lead on the Maryland side of the river at the Washington Suburban Sanitary Commission and Washington Aqueduct Division intakes. A very large (data error suspected) negative trend was determined for Barium at the Fairfax County Water Authority intake on the Virginia side. Metals in water data indicated concentrations which were potentially hazardous to human health for Arsenic and

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

Cadmium. However, as in other regions of the basin, concentrations as low as the detection limit are within potentially hazardous ranges. Concentrations of Arsenic, PCB's, Dieldrin, and Chlordane in fish tissue were also found to be in potentially hazardous ranges. There appeared to be no standards violations among the data analyzed from Potomac main stem stations for those parameters with assigned criteria.

The smaller tributaries were sampled at 28 stations. At 1 station each on Catoctin Creek (Virginia), Broad Run, Sugarland Run, Horsepen Run, and Difficult Run sediment sample data were available. At almost all stations, the water quality data were from the 1970's, with no significant trends and no apparent standards violations or health risks except for Aldrin in the Virginia tributaries.

Monocacy River and tributaries

The Monocacy River is 58 miles (93 km) long, with a watershed covering 228 sq mi (590 sq km) in Pennsylvania and 742 sq mi (1,922 sq km) in Maryland. Tributaries from which sample data were available included:

- Rock Creek
- Piney Creek
- Middle Creek
- Toms Creek
- Flat Run
- Bear Branch
- Big Pipe Creek
- Little Pipe Creek
- Dickenson Run
- Hunting Creek
- Cunningham Falls
- Carroll Creek
- Linganore Creek
- Bennett Creek
- Unnamed Tributaries

Water quality data analysis from the 46 Monocacy River catchment stations is presented in tables on pp. V-15 to V-41. Rock Creek, a tributary to the Monocacy River near Gettysburg, Pennsylvania indicated significant negative trends in Cadmium and Lead. The remainder of the Monocacy River stations revealed mixed trends: increasing trends for Lead and Chromium, and both increasing and decreasing trends for Copper. Potentially hazardous levels of Lead existed in Rock Creek (Pennsylvania) water; and fish tissue analysis revealed potential cancer risk from Arsenic, Dieldrin, and PCB's at the Monocacy River monitoring stations.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

Tuscarora Creek (Loudon County, Virginia)

Water quality data were available from 2 stations (see tables pp. V-43, 44) on Tuscarora Creek. A significant decreasing trend in Arsenic was determined at a sampling station on Tuscarora Creek. The data for Aldrin indicated a concentration with potential cancer risk and appeared to be in violation of Virginia state water quality standards.

Goose Creek

Goose Creek joins the Potomac River about 35 miles (56 km) upstream of Washington, DC. It drains a rapidly developing area in suburban Loudon County, Virginia, and its water quality influences the Potomac River water withdrawn at the Fairfax County Water Authority intake off Lowes Island. Water quality data were available from 7 stations on Goose Creek (see tables pp. V-45 to V-51). No significant trends were determined for toxic parameters sampled in Goose Creek. However, Arsenic and Dieldrin were detected at potentially hazardous levels. Analysis of fish tissue indicated potential human risk of cancer from Arsenic, Aldrin, Alpha BHC, Dieldrin, Chlordane, Heptachlor, Heptachlor Epoxide, PCB's, and Toxaphene. Apparent violations of the state water quality standard for Aldrin were evident in Goose Creek, as in other Virginia tributaries.

Summary

Trend

Water quality Data were available from 97 stations in the Potomac Piedmont. Regional patterns in toxic water quality parameter trends in the Potomac main stem were decreasing for Barium, Chromium, and Lead. The trend for Copper was increasing at Whites Ferry, but decreasing downstream at the water utility intakes. Rock Creek, a tributary to the Monocacy River in Pennsylvania, indicated significant negative trends in Cadmium and Lead. The remainder of the Monocacy River stations revealed mixed trends: increasing for Lead and Chromium, and both increasing and decreasing for Copper. The only other significant trend determined in the data for the Potomac Piedmont Subdivision was a decline in Arsenic in Tuscarora Creek (Loudon County, Virginia).

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

Human Health

Concentrations of Arsenic and Cadmium throughout the subdivision which were at or below the detection limit indicated a health risk. Analysis of fish tissue revealed potential human risk of cancer from Arsenic, PCB's, and Dieldrin in Potomac, Monocacy, and Goose Creek. Chlordane was found at potentially human cancer risk levels in fish taken from Potomac and Goose Creek sampling stations. In addition, Aldrin, Alpha BHC, Heptachlor, Heptachlor Epoxide, and Toxaphene were found at potentially human cancer risk levels in fish from Goose Creek.

Toxic Status/Standards Exceedance

Apparent violations of the state water quality standard for Aldrin were scattered throughout the Virginia tributaries.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Potomac River	<u>Station</u>	LAPOT170.40
<u>R. Mile</u>	170.40	<u>Agency</u>	VASWCB
<u>Location</u>	Route 340 Bridge, Loudoun Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-79	11(10)	-0.50	0.070	2.00	5.00	720525	5
Cadmium	w	71-79	11(11)	0.00	0.370	10.00	10.00	790426	2
Chromium	w	70-79	19(16)	0.00	0.030	10.00	10.00	790426	3
Copper	w	70-79	18(14)	0.00	0.320	10.00	29.99	700406	1
Lead	w	70-79	15(8)	-0.44	0.040	10.00	19.99	710421	1
Mercury	w	70-79	18(18)	0.00	0.500	0.50	0.50	771129	3
Zinc	w	70-79	19(7)	0.00	0.230	19.99	39.99	731219	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790426	2	1.50	1.50	0.71	NA	644
Cadmium	w	790426	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	790426	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790426	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790426	2	4.50	4.50	3.54	0.0919	NA
Mercury	w	790426	2	0.30	0.30	0.00	0.0043	NA
Zinc	w	790426	2	15.00	15.00	7.07	0.0020	NA

<u>River</u>	Potomac River	<u>Station</u>	POT1707
<u>R. Mile</u>	170.70	<u>Agency</u>	MDOEP
<u>Location</u>	U.S. 340 Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740729	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740729	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740729	1
Lead	w	74-74	1(1)	NA	NA	0.50	0.50	740729	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740729	1
Alpha BHC	f	77-77	4(4)	NA	NA	0.00	0.00	770616	4
Gamma BHC(Lindane)	f	77-77	4(4)	NA	NA	0.00	0.00	770616	4
Chlordane	f	77-77	4(0)	NA	NA	0.02	0.11	770616	1
Dieldrin	f	77-77	4(4)	NA	NA	0.00	0.00	770616	4
Endrin	f	77-77	4(4)	NA	NA	0.00	0.00	770616	4
Heptachlor Epoxide	f	77-77	4(4)	NA	NA	0.00	0.00	770616	4
PCB's	f	77-77	4(0)	NA	NA	0.09	0.17	770616	1
P,P'DDD	f	77-77	4(0)	NA	NA	0.01	0.03	770616	1
P,P'DDE	f	77-77	4(0)	NA	NA	0.03	0.05	770616	1
P,P'DDT	f	77-77	4(4)	NA	NA	0.00	0.00	770616	4
Toxaphene	f	77-77	4(4)	NA	NA	0.01	0.01	770616	4

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

Station POT1707 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740729	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740729	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740729	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740729	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	740729	1	0.00	0.00	0.00	NA	NA
Alpha BHC	f	770616	4	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	770616	4	0.00	0.00	0.00	NA	NA
Chlordane	f	770616	4	0.02	0.04	0.05	0.0372	3
Dieldrin	f	770616	4	0.00	0.00	0.00	NA	1
Endrin	f	770616	4	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	770616	4	0.00	0.00	0.00	0.0015	NA
PCB's	f	770616	4	0.09	0.10	0.05	NA	34
P,P'DDD	f	770616	4	0.01	0.01	0.01	NA	NA
P,P'DDE	f	770616	4	0.03	0.03	0.01	NA	NA
P,P'DDT	f	770616	4	0.00	0.00	0.00	NA	NA
Toxaphene	f	770616	4	0.01	0.01	0.00	NA	1

<u>River</u>	Dutchman Creek	<u>Station</u>	1ADUT000.62
<u>R. Mile</u>	000.62	<u>Agency</u>	VASWCB
<u>Location</u>	Route 674 Bridge, Loudoun Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-78	3(2)	NA	NA	2.00	4.30	730817	1
Cadmium	w	73-78	4(4)	NA	NA	10.00	10.00	781128	1
Chromium	w	73-78	7(5)	0.00	0.500	10.00	10.00	781128	1
Copper	w	73-78	7(6)	0.00	0.500	10.00	10.00	781128	1
Lead	w	73-78	6(3)	NA	NA	10.00	26.99	770322	1
Mercury	w	73-78	7(6)	0.00	0.270	0.50	0.50	770322	2
Zinc	w	73-78	7(5)	0.00	0.500	10.00	59.99	770322	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	781128	1	2.00	2.00	0.00	NA	858
Cadmium	w	781128	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	781128	1	10.00	10.00	0.00	0.0572	NA
Copper	w	781128	1	10.00	10.00	0.00	0.0077	NA
Lead	w	781128	1	5.00	5.00	0.00	0.1021	NA
Mercury	w	781128	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	781128	1	20.00	20.00	0.00	0.0027	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Potomac River	<u>Station</u>	POT1661
<u>R. Mile</u>	166.10	<u>Agency</u>	MDOEP
<u>Location</u>	MD 17 Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740730	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740730	1
Copper	w	74-74	2(2)	NA	NA	0.10	0.10	740813	2
Lead	w	74-74	1(1)	NA	NA	0.50	0.50	740730	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740730	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740730	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740730	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740813	2	0.10	0.10	0.00	0.0001	NA
Lead	w	740730	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	740730	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Potomac River	<u>Station</u>	POT1635
<u>R. Mile</u>	163.50	<u>Agency</u>	MDOEP
<u>Location</u>	From bank above Little Catoclin Creek		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740730	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740730	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740730	1
Lead	w	74-74	1(1)	NA	NA	0.50	0.50	740730	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740730	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740730	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740730	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740730	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740730	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	740730	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Catoctin Creek	<u>Station</u>	CAC0031
<u>R. Mile</u>	3.1	<u>Agency</u>	21MDOEP
<u>Location</u>	Mouth at Bridge on Rt. 464		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740730	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740730	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740730	1
Lead	w	74-74	1(1)	NA	NA	0.50	0.50	740730	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740730	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740730	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740730	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740730	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740730	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	740730	1	0.00	0.00	0.00	NA	NA

<u>River</u>	North Fork Catoctin Creek	<u>Station</u>	1ANOC004.38
<u>R. Mile</u>	004.38	<u>Agency</u>	VASWCB
<u>Location</u>	Route 287 Bridge, Loudoun Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-79	6(5)	-0.50	0.270	2.00	3.00	751009	1
Cadmium	w	77-79	5(5)	0.00	0.270	10.00	10.00	790426	3
Chromium	w	75-79	6(6)	0.00	0.270	10.00	10.00	790426	3
Copper	w	75-79	6(6)	0.00	0.270	10.00	10.00	790426	3
Lead	w	75-79	6(1)	1.50	0.500	3.00	10.00	780403	1
Mercury	w	77-79	5(5)	-0.10	0.150	0.50	0.50	771129	2
Zinc	w	75-79	6(3)	0.00	0.270	10.00	19.99	751009	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790426	2	1.50	1.50	0.71	NA	644
Cadmium	w	790426	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	790426	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790426	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790426	2	3.00	3.00	1.41	0.0613	NA
Mercury	w	790426	2	0.30	0.30	0.00	0.0043	NA
Zinc	w	790426	2	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	South Fork Catoctin Creek	<u>Station</u>	1ASOC012.38
<u>R. Mile</u>	012.38	<u>Agency</u>	VASWCB
<u>Location</u>	Route 690 Bridge, Loudoun Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-79	7(7)	-0.42	0.100	2.00	3.00	751009	1
Cadmium	w	73-79	7(7)	0.00	0.100	10.00	10.00	790426	3
Chromium	w	73-79	10(9)	0.00	0.100	10.00	10.00	790426	3
Copper	w	73-79	10(10)	0.00	0.100	10.00	10.00	790426	3
Lead	w	73-79	9(4)	3.50	0.130	9.00	10.00	790426	1
Mercury	w	73-79	10(10)	-0.08	0.130	0.50	5.00	771014	1
Zinc	w	73-79	10(5)	2.50	0.360	15.00	309.90	731219	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790426	2	1.50	1.50	0.71	NA	644
Cadmium	w	790426	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	790426	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790426	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790426	2	9.50	9.50	0.71	0.1941	NA
Mercury	w	790426	2	0.30	0.30	0.00	0.0043	NA
Zinc	w	790426	2	20.00	20.00	0.00	0.0027	NA

<u>River</u>	South Fork Catoctin Creek	<u>Station</u>	1ASOC011.82
<u>R. Mile</u>	011.82	<u>Agency</u>	VASWCB
<u>Location</u>	Route 611 Bridge, Loudoun Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-79	6(5)	-0.50	0.270	2.00	3.00	751009	1
Cadmium	w	75-79	6(6)	NA	NA	10.00	10.00	790426	3
Chromium	w	73-79	10(9)	0.00	0.270	10.00	10.00	790426	3
Copper	w	73-79	10(9)	0.00	0.270	10.00	10.00	790426	3
Lead	w	73-79	9(3)	-3.50	0.150	8.00	164.90	771129	1
Mercury	w	73-79	10(9)	0.00	0.500	0.50	0.80	750522	1
Zinc	w	73-79	10(4)	0.00	0.100	10.00	99.99	731219	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790426	2	1.50	1.50	0.71	NA	644
Cadmium	w	790426	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	790426	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790426	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790426	2	5.50	5.50	3.54	0.1124	NA
Mercury	w	790426	2	0.30	0.30	0.00	0.0043	NA
Zinc	w	790426	2	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	South Fork Catoctin Creek	<u>Station</u>	1ASOC001.66
<u>R. Mile</u>	166.51-.90-13.50-1.66	<u>Agency</u>	VASWCB
<u>Location</u>	Route 698 Bridge near Waterford, Loudoun Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	79-86	7(3)	-2.53	0.150	4.40	44.00	790830	1
Arsenic	w	73-86	13(10)	-0.11	0.280	2.00	3.00	850709	2
Beryllium	s	83-83	1(0)	NA	NA	0.87	0.87	830504	1
Beryllium	w	83-86	3(2)	NA	NA	1.60	2.20	860812	1
Cadmium	s	79-86	7(6)	-0.01	0.500	0.20	0.44	790830	1
Cadmium	w	73-86	14(13)	0.00	0.090	10.00	10.00	810803	5
Chromium	w	73-86	17(12)	0.00	0.250	10.00	10.00	810803	5
Chromium	s	79-86	7(0)	-1.40	0.500	25.00	32.30	860812	1
Copper	s	79-86	7(0)	-5.77	0.500	17.20	38.70	860812	1
Copper	w	73-86	17(17)	0.00	0.040	10.00	10.00	860715	10
Lead	s	79-86	7(0)	-1.93	0.500	12.50	32.70	830504	1
Lead	w	73-86	16(11)	-0.13	0.390	2.00	15.00	850709	1
Mercury	s	79-86	6(4)	-0.01	0.500	0.16	0.44	820401	1
Mercury	w	73-86	17(16)	0.00	0.120	0.30	0.70	750522	1
Nickel	s	79-86	7(0)	-2.47	0.150	8.70	13.80	810504	1
Nickel	w	79-86	7(6)	22.50	0.150	10.00	100.00	860715	1
Selenium	w	83-86	4(3)	NA	NA	1.30	4.30	860812	1
Zinc	s	79-86	7(0)	-13.57	0.500	35.20	75.90	810504	1
Zinc	w	73-86	17(10)	0.00	0.200	10.00	30.00	850709	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830504	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860812	1	12.90	12.90	0.00	NA	NA
Arsenic	w	860715	1	1.00	1.00	0.00	NA	429
Beryllium	s	830504	1	0.87	0.87	0.00	NA	NA
Beryllium	w	860812	1	2.20	2.20	0.00	0.1258	NA
Cadmium	s	860812	1	0.22	0.22	0.00	NA	NA
Cadmium	w	860715	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	860715	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860812	1	32.30	32.30	0.00	NA	NA
Copper	s	860812	1	38.70	38.70	0.00	NA	NA
Copper	w	860715	1	10.00	10.00	0.00	0.0077	NA
Lead	s	860812	1	15.10	15.10	0.00	NA	NA
Lead	w	860715	1	1.00	1.00	0.00	0.0204	NA
Mercury	s	860812	1	0.10	0.10	0.00	NA	NA
Mercury	w	860715	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860812	1	12.90	12.90	0.00	NA	NA
Nickel	w	860715	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860812	1	4.30	4.30	0.00	0.0410	NA
Zinc	s	860812	1	66.70	66.70	0.00	NA	NA
Zinc	w	860715	1	10.00	10.00	0.00	0.0014	NA
Aldrin	s	830504	1	0.02	0.02	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Catoctin Creek	<u>Station</u> 1ACAX000.19
<u>R. Mile</u>	000.19	<u>Agency</u> VASWCB
<u>Location</u>	Route 672 Bridge, Loudoun Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-77	4(3)	NA	NA	2.50	4.30	730817	1
Cadmium	w	73-77	5(5)	NA	NA	10.00	10.00	771129	4
Chromium	w	73-77	8(8)	0.00	0.500	10.00	10.00	771129	8
Copper	w	73-77	8(7)	0.00	0.500	10.00	10.00	771129	8
Lead	w	73-77	7(4)	NA	NA	4.00	10.00	740530	3
Mercury	w	73-77	8(8)	0.00	0.270	0.50	0.50	771129	4
Zinc	w	73-77	8(6)	0.00	0.500	10.00	19.99	751009	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	771129	2	2.00	2.00	0.00	NA	858
Cadmium	w	771129	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	771129	2	10.00	10.00	0.00	0.0572	NA
Copper	w	771129	2	10.00	10.00	0.00	0.0077	NA
Lead	w	771129	2	1.50	1.50	0.71	0.0306	NA
Mercury	w	771129	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	771129	2	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Potomac River	<u>Station</u> POT1595
<u>R. Mile</u>	159.5	<u>Agency</u> 21MDOEP
<u>Location</u>	E. end of bridge, U.S. Rt. 15	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740730	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740730	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740730	1
Lead	w	74-74	1(1)	NA	NA	0.50	0.50	740730	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740730	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740730	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740730	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740730	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740730	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	740730	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Potomac River	<u>Station</u>	01638500
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Point of Rocks, Frederick Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	72-76	2(1)	NA	NA	2.50	4.00	760831	1
Arsenic	w	76-76	1(0)	NA	NA	1.00	1.00	760831	1
Cadmium	s	72-72	1(0)	NA	NA	0.27	0.27	720517	1
Chromium	w	76-76	1(1)	NA	NA	20.00	20.00	760831	1
Chromium	s	72-76	2(0)	NA	NA	6.00	10.00	760831	1
Copper	s	72-76	2(0)	NA	NA	12.70	20.00	760831	1
Lead	s	72-76	2(0)	NA	NA	22.00	30.00	760831	1
Lead	w	76-76	1(0)	NA	NA	24.00	24.00	760831	1
Mercury	s	72-76	2(0)	NA	NA	0.07	0.10	760831	1
Mercury	w	76-76	1(1)	NA	NA	0.50	0.50	760831	1
Nickel	s	72-76	2(0)	NA	NA	12.00	20.00	760831	1
Selenium	w	76-76	1(1)	NA	NA	1.00	1.00	760831	1
Zinc	s	72-76	2(0)	NA	NA	78.50	140.00	760831	1
Zinc	w	76-76	1(1)	NA	NA	20.00	20.00	760831	1
Dieldrin	s	72-72	1(0)	NA	NA	0.80	0.80	720517	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	760831	1	4.00	4.00	0.00	NA	NA
Arsenic	w	760831	1	1.00	1.00	0.00	NA	429
Cadmium	s	720517	1	0.27	0.27	0.00	NA	NA
Chromium	w	760831	1	20.00	20.00	0.00	0.1144	NA
Chromium	s	760831	1	10.00	10.00	0.00	NA	NA
Copper	s	760831	1	20.00	20.00	0.00	NA	NA
Lead	s	760831	1	30.00	30.00	0.00	NA	NA
Lead	w	760831	1	24.00	24.00	0.00	0.4903	NA
Mercury	s	760831	1	0.10	0.10	0.00	NA	NA
Mercury	w	760831	1	0.50	0.50	0.00	0.0072	NA
Nickel	s	760831	1	20.00	20.00	0.00	NA	NA
Selenium	w	760831	1	1.00	1.00	0.00	0.0095	NA
Zinc	s	760831	1	140.00	140.00	0.00	NA	NA
Zinc	w	760831	1	20.00	20.00	0.00	0.0027	NA
Dieldrin	s	720517	1	0.80	0.80	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Tuscardra Creek	<u>Station</u>	TUC0008
<u>R. Mile</u>	.80	<u>Agency</u>	MDOEP
<u>Location</u>	0.6 mile SW Licksville, Farthest downstream bridge.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740730	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740730	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740730	1
Lead	w	74-74	1(1)	NA	NA	0.50	0.50	740730	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740730	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740730	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740730	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740730	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740730	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	740730	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Potomac River	<u>Station</u>	POT1532
<u>R. Mile</u>	153.20	<u>Agency</u>	MDOEP
<u>Location</u>	Above Monocacy Mouth, 2.0 mi. below sewer discharge, MD shore.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740730	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740730	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740730	1
Lead	w	74-74	1(1)	NA	NA	0.50	0.50	740730	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740730	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740730	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740730	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740730	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740730	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	740730	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Rock Creek	<u>Station</u>	WQN0503
<u>R. Mile</u>		<u>Agency</u>	PADER
<u>Location</u>	U.S. 140 bridge near Gettysburg, Adams Co., Pa.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Antimony	w	74-76	2(2)	NA	NA	75.00	100.00	760902	1
Arsenic	s	78-78	1(1)	NA	NA	10.00	10.00	780824	1
Arsenic	w	78-87	5(5)	-0.65	0.070	5.00	10.00	780824	1
Beryllium	w	74-80	4(3)	NA	NA	1.51	5.00	760902	1
Cadmium	sm	77-78	2(0)	NA	NA	4.12	8.00	770912	1
Cadmium	w	73-87	14(11)	-0.20	0.010	3.00	3.00	800813	8
Chromium	w	74-87	14(9)	0.00	0.010	10.00	10.00	830829	11
Chromium+6	w	83-83	1(1)	NA	NA	10.00	10.00	830829	1
Chromium	s	77-78	2(0)	NA	NA	385.60	730.00	770912	1
Copper	s	77-78	2(0)	NA	NA	238.40	450.00	770912	1
Copper	w	73-88	19(8)	1.22	0.210	20.00	50.00	870811	3
Lead	s	77-78	2(0)	NA	NA	739.00	1400.00	770912	1
Lead	w	73-88	19(13)	-4.54	0.040	7.40	50.00	800813	8
Mercury	w	73-87	9(9)	-0.14	0.350	1.00	5.00	780824	1
Nickel	s	77-78	2(0)	NA	NA	190.80	360.00	770912	1
Nickel	w	73-88	19(10)	0.00	0.460	25.00	320.00	750902	1
Silver	w	74-74	1(1)	NA	NA	1.00	1.00	740722	1
Zinc	s	77-78	2(0)	NA	NA	1523.00	2950.00	770912	1
Zinc	w	73-88	20(1)	0.00	0.500	30.00	2950.00	770912	1
Chlordane-dwt	s	75-75	1(0)	NA	NA	3.50	3.50	750908	1
Dieldrin	s	74-75	2(0)	NA	NA	3.04	4.80	741024	1
Dieldrin	w	74-74	2(0)	NA	NA	0.07	0.08	740722	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Antimony	w	760902	1	100.00	100.00	0.00	7.1500	NA
Arsenic	s	780824	1	10.00	10.00	0.00	NA	NA
Arsenic	w	870811	2	4.50	4.50	0.71	NA	1931
Beryllium	w	800813	1	3.00	3.00	0.00	0.1716	NA
Cadmium	sm	780824	2	4.12	4.12	5.49	NA	NA
Cadmium	w	870811	2	0.70	0.70	0.14	0.0690	NA
Chromium	w	870811	2	4.00	4.00	0.00	0.0229	NA
Chromium+6	w	830829	1	10.00	10.00	0.00	0.0572	NA
Chromium	s	780824	2	385.60	385.60	487.06	NA	NA
Copper	s	780824	2	238.40	238.40	299.25	NA	NA
Copper	w	880412	5	10.00	18.00	17.89	0.0077	NA
Lead	s	780824	2	739.00	739.00	934.79	NA	NA
Lead	w	880412	5	4.00	4.78	1.48	0.0817	NA
Mercury	w	870811	2	1.00	1.00	0.00	0.0143	NA
Nickel	s	780824	2	190.80	190.80	239.28	NA	NA
Nickel	w	880412	5	25.00	30.00	11.18	0.0715	NA
Silver	w	740722	1	1.00	1.00	0.00	0.0095	NA
Zinc	s	780824	2	1523.00	2018.08	0.00	NA	NA
Zinc	w	880412	5	15.00	23.20	16.48	0.0020	NA
Chlordane-dwt	s	750908	1	3.50	3.50	0.00	NA	NA
Dieldrin	s	750908	2	3.04	3.04	2.49	NA	NA
Dieldrin	w	741024	2	0.07	0.07	0.01	NA	64

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Rock Creek	<u>Station</u>	01638890
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Near Gettysburg, Adams Co., Pa.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	73-73	1(1)	NA	NA	3.00	3.00	730816	1
Chromium	w	70-70	1(0)	NA	NA	70.00	70.00	700317	1
Copper	w	70-73	2(0)	NA	NA	30.00	40.00	730816	1
Lead	w	73-73	1(1)	NA	NA	50.00	50.00	730816	1
Mercury	w	73-73	1(1)	NA	NA	0.50	0.50	730816	1
Nickel	w	70-73	2(1)	NA	NA	70.00	100.00	700317	1
Zinc	w	70-73	2(0)	NA	NA	2260.00	4400.00	700317	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	730816	1	3.00	3.00	0.00	0.2959	NA
Chromium	w	700317	1	70.00	70.00	0.00	0.4004	NA
Copper	w	730816	1	40.00	40.00	0.00	0.0309	NA
Lead	w	730816	1	50.00	50.00	0.00	1.0214	NA
Mercury	w	730816	1	0.50	0.50	0.00	0.0072	NA
Nickel	w	730816	1	40.00	40.00	0.00	0.1144	NA
Zinc	w	730816	1	120.00	120.00	0.00	0.0163	NA

<u>River</u>	Monocacy River	<u>Station</u>	01639000
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Bridgeport, Frederick Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	82-82	1(1)	NA	NA	1.00	1.00	820810	1
Cadmium	s	82-82	1(1)	NA	NA	1.00	1.00	820810	1
Chromium	w	69-69	1(0)	NA	NA	3.00	3.00	691021	1
Chromium	s	82-82	1(0)	NA	NA	7.00	7.00	820810	1
Copper	s	82-82	1(0)	NA	NA	3.00	3.00	820810	1
Lead	s	82-82	1(0)	NA	NA	10.00	10.00	820810	1
Mercury	s	82-82	1(1)	NA	NA	0.01	0.01	820810	1
Zinc	s	82-82	1(0)	NA	NA	23.00	23.00	820810	1
Cyanide	w	69-69	1(0)	NA	NA	0.01	0.01	691021	1
Phenols	w	69-71	2(0)	NA	NA	5.50	6.00	710916	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	820810	1	1.00	1.00	0.00	NA	NA
Cadmium	s	820810	1	1.00	1.00	0.00	NA	NA
Chromium	w	691021	1	3.00	3.00	0.00	0.0172	NA
Chromium	s	820810	1	7.00	7.00	0.00	NA	NA
Copper	s	820810	1	3.00	3.00	0.00	NA	NA
Lead	s	820810	1	10.00	10.00	0.00	NA	NA
Mercury	s	820810	1	0.01	0.01	0.00	NA	NA
Zinc	s	820810	1	23.00	23.00	0.00	NA	NA
Cyanide	w	691021	1	0.01	0.01	0.00	NA	NA
Phenols	w	710916	1	6.00	6.00	0.00	0.0017	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Monocacy River	<u>Station</u>	MON0528
<u>R. Mile</u>	52.8	<u>Agency</u>	21MDOEP
<u>Location</u>	Bridge on MD Rt. 7, Bridgeport		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	79-84	19(3)	0.00	0.350	0.08	0.19	821015	1
Cadmium	f	79-85	21(3)	0.04	0.320	0.25	1.60	841115	1
Chromium	w	79-85	21(12)	0.10	0.120	0.50	1.60	831018	1
Copper	f	79-85	21(0)	0.27	0.000	0.90	7.90	841018	1
Lead	f	79-85	21(5)	0.21	0.180	1.20	3.80	831018	1
Mercury	f	79-85	21(0)	0.00	0.380	0.08	0.26	841018	1
Zinc	f	79-85	21(0)	-0.50	0.380	13.00	31.00	791023	1
Alpha BHC	f	79-85	23(12)	0.00	0.500	0.00	0.00	841018	2
Gamma BHC(Lindane)	f	79-85	23(20)	0.00	0.130	0.00	0.00	851009	1
Chlordane	f	79-85	23(0)	0.01	0.090	0.05	0.23	841018	1
Dieldrin	f	79-85	23(4)	0.00	0.090	0.00	0.03	841018	1
Endrin	f	79-85	23(23)	0.00	0.500	0.00	0.00	851009	23
Heptachlor Epoxide	f	79-85	23(12)	0.00	0.050	0.00	0.01	841018	1
Hexachlorobenzene	f	85-85	2(2)	NA	NA	0.00	0.00	851009	2
PCB-1242	f	85-85	2(2)	NA	NA	0.01	0.01	851009	2
PCB-1254	f	85-85	2(0)	NA	NA	0.03	0.03	851009	1
PCB1260	f	85-85	2(0)	NA	NA	0.02	0.03	851009	1
PCB's	f	79-85	23(0)	0.00	0.500	0.05	0.12	841018	1
P,P'DDD	f	79-85	23(1)	0.00	0.500	0.00	0.02	841018	1
P,P'DDE	f	79-85	23(0)	0.00	0.220	0.03	0.10	841018	1
P,P'DDT	f	79-85	23(19)	0.00	0.060	0.00	0.01	801016	1
Toxaphene	f	79-85	23(23)	0.00	0.500	0.01	0.01	851009	23

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	841115	8	0.07	0.09	0.06	NA	91
Cadmium	f	851009	10	0.25	0.51	0.59	0.0785	NA
Chromium	w	851009	10	0.50	0.57	0.16	0.0029	NA
Copper	f	851009	10	2.70	3.18	2.32	0.0068	NA
Lead	f	851009	10	1.05	1.32	0.86	0.0697	NA
Mercury	f	851009	10	0.10	0.12	0.08	0.0046	NA
Zinc	f	851009	10	5.40	10.34	9.41	0.0024	NA
Alpha BHC	f	851009	12	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	851009	12	0.00	0.00	0.00	NA	NA
Chlordane	f	851009	12	0.07	0.08	0.06	0.1226	10
Dieldrin	f	851009	12	0.01	0.01	0.01	NA	17
Endrin	f	851009	12	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	851009	12	0.00	0.00	0.00	0.0062	NA
Hexachlorobenzene	f	851009	2	0.00	0.00	0.00	NA	NA
PCB-1242	f	851009	2	0.01	0.01	0.00	NA	4
PCB-1254	f	851009	2	0.03	0.03	0.01	NA	10
PCB1260	f	851009	2	0.02	0.02	0.01	NA	8
PCB's	f	851009	12	0.05	0.06	0.03	NA	20
P,P'DDD	f	851009	12	0.01	0.01	0.01	NA	NA
P,P'DDE	f	851009	12	0.03	0.04	0.02	NA	NA
P,P'DDT	f	851009	12	0.00	0.00	0.00	NA	NA
Toxaphene	f	851009	12	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Piney Creek	<u>Station</u>	PIN0092
<u>R. Mile</u>	9.20	<u>Agency</u>	MDOEP
<u>Location</u>	Fringer Rd. Bridge, NE Taneytown		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740401	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740401	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740401	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740401	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740401	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740401	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740401	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740401	1	0.05	0.05	0.00	NA	NA
Lead	w	740401	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740401	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Piney Creek	<u>Station</u>	PIN0062
<u>R. Mile</u>	6.20	<u>Agency</u>	MMDOEP
<u>Location</u>	MD 97 Bridge, NW Taneytown		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740401	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740401	1
Copper	w	74-74	1(0)	NA	NA	0.05	0.05	740401	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740401	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740401	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740401	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740401	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740401	1	0.05	0.05	0.00	NA	NA
Lead	w	740401	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740401	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Monocacy River	<u>Station</u>	MON0498
<u>R. Mile</u>	49.80	<u>Agency</u>	MDOEP
<u>Location</u>	Bridge on Keysville Rd.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium+6	w	66-66	1(1)	NA	NA	0.02	0.02	660720	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium+6	w	660720	1	0.02	0.02	0.00	0.0001	NA

<u>River</u>	Middle Creek	<u>Station</u>	MTM0002
<u>R. Mile</u>	.20	<u>Agency</u>	MDOEP
<u>Location</u>	1/4 mile upstream from confluence with Toms Creek		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium+6	w	66-66	1(0)	NA	NA	0.06	0.06	660622	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium+6	w	660622	1	0.06	0.06	0.00	0.0003	NA

<u>River</u>	Toms Creek	<u>Station</u>	TOM0061
<u>R. Mile</u>	6.10	<u>Agency</u>	MDOEP
<u>Location</u>	Bridge on Creamery Road		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium+6	w	66-66	1(0)	NA	NA	0.05	0.05	660720	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium+6	w	660720	1	0.05	0.05	0.00	0.0003	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Flat Run	<u>Station</u>	FLA0019
<u>R. Mile</u>	1.90	<u>Agency</u>	MDOEP
<u>Location</u>	Bridge on US Route 15		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium+6	w	66-66	2(0)	NA	NA	20.00	20.00	660720	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium+6	w	660720	2	20.00	20.00	0.00	0.1144	NA

<u>River</u>	Toms Creek	<u>Station</u>	TOM0038
<u>R. Mile</u>	3.80	<u>Agency</u>	MDOEP
<u>Location</u>	Fourpoints Bridge on Keysville Road		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium+6	w	66-66	1(1)	NA	NA	0.05	0.05	660720	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium+6	w	660720	1	0.05	0.05	0.00	0.0003	NA

<u>River</u>	Toms Creek	<u>Station</u>	TOM0003
<u>R. Mile</u>	.30	<u>Agency</u>	MDOEP
<u>Location</u>	Bridge on Sixes Road		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium+6	w	66-66	2(2)	NA	NA	0.02	0.02	660720	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium+6	w	660720	2	0.02	0.02	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Monocacy River	<u>Station</u>	MON0468
<u>R. Mile</u>	46.80	<u>Agency</u>	MDOEP
<u>Location</u>	Six Bridge on Sixes Road		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium+6	w	66-66	2(2)	NA	NA	0.02	0.02	660720	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium+6	w	660720	2	0.02	0.02	0.00	0.0001	NA

<u>River</u>	Unnamed Tributary	<u>Station</u>	UKM0017
<u>R. Mile</u>	1.70	<u>Agency</u>	MDOEP
<u>Location</u>	Unnamed Farm Rd.off Sullivan Rd.0.1 mi.W.MD 27 intersection		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	76-76	1(1)	NA	NA	0.01	0.01	761207	1
Cadmium	w	76-76	1(1)	NA	NA	0.03	0.03	761207	1
Chromium	w	76-76	1(1)	NA	NA	0.10	0.10	761207	1
Copper	w	76-76	1(0)	NA	NA	0.10	0.10	761207	1
Lead	w	76-76	1(1)	NA	NA	0.20	0.20	761207	1
Mercury	w	76-76	1(1)	NA	NA	0.00	0.00	761207	1
Nickel	w	76-76	1(1)	NA	NA	0.10	0.10	761207	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	761207	1	0.01	0.01	0.00	NA	4
Cadmium	w	761207	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	761207	1	0.10	0.10	0.00	0.0006	NA
Copper	w	761207	1	0.10	0.10	0.00	0.0001	NA
Lead	w	761207	1	0.20	0.20	0.00	0.0041	NA
Mercury	w	761207	1	0.00	0.00	0.00	NA	NA
Nickel	w	761207	1	0.10	0.10	0.00	0.0003	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Unnamed Tributary	<u>Station</u> UKM0015
<u>R. Mile</u>	1.50	<u>Agency</u> MDOEP
<u>Location</u>	Unnamed Farm Rd. 0.3 mi. NE of intersection MD 27 & Sullivan Rd.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	76-76	1(1)	NA	NA	0.01	0.01	761206	1
Cadmium	w	76-77	2(2)	NA	NA	0.04	0.05	770424	1
Chromium	w	76-77	4(3)	NA	NA	0.10	0.10	770424	4
Copper	w	76-77	4(3)	NA	NA	0.05	0.05	770424	4
Lead	w	76-77	2(2)	NA	NA	0.35	0.50	770424	1
Mercury	w	76-76	1(1)	NA	NA	0.00	0.00	761206	1
Nickel	w	76-76	1(1)	NA	NA	0.10	0.10	761206	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	761206	1	0.01	0.01	0.00	NA	4
Cadmium	w	770424	2	0.04	0.04	0.01	0.0039	NA
Chromium	w	770424	4	0.10	0.10	0.00	0.0006	NA
Copper	w	770424	4	0.05	0.05	0.00	NA	NA
Lead	w	770424	2	0.35	0.35	0.21	0.0072	NA
Mercury	w	761206	1	0.00	0.00	0.00	NA	NA
Nickel	w	761206	1	0.10	0.10	0.00	0.0003	NA

<u>River</u>	Bear Branch	<u>Station</u> BEE0015
<u>R. Mile</u>	1.50	<u>Agency</u> MDOEP
<u>Location</u>	Below John Owings Rd. above all landfill drainage.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	76-76	1(1)	NA	NA	0.01	0.01	760629	1
Cadmium	w	76-76	1(1)	NA	NA	0.03	0.03	760629	1
Chromium	w	76-76	1(1)	NA	NA	0.10	0.10	760629	1
Lead	w	76-76	1(1)	NA	NA	0.50	0.50	760629	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	760629	1	0.01	0.01	0.00	NA	2
Cadmium	w	760629	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	760629	1	0.10	0.10	0.00	0.0006	NA
Lead	w	760629	1	0.50	0.50	0.00	0.0102	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Bear Branch	<u>Station</u>	BEE0014
<u>R. Mile</u>	1.40	<u>Agency</u>	MDOEP
<u>Location</u>	Below all lawful seepages & drains in 1st raingage N.of Rd.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	76-76	1(1)	NA	NA	0.01	0.01	760629	1
Cadmium	w	76-76	1(1)	NA	NA	0.03	0.03	760629	1
Chromium	w	76-76	1(1)	NA	NA	0.10	0.10	760629	1
Lead	w	76-76	1(1)	NA	NA	0.50	0.50	760629	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	760629	1	0.01	0.01	0.00	NA	2
Cadmium	w	760629	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	760629	1	0.10	0.10	0.00	0.0006	NA
Lead	w	760629	1	0.50	0.50	0.00	0.0102	NA

<u>River</u>	Unnamed Tributary	<u>Station</u>	URE0003
<u>R. Mile</u>	.30	<u>Agency</u>	MDOEP
<u>Location</u>	Above fill area John Owings Rd., above underground pipe.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	76-76	1(1)	NA	NA	0.01	0.01	760629	1
Cadmium	w	76-76	1(1)	NA	NA	0.03	0.03	760629	1
Chromium	w	76-76	1(1)	NA	NA	0.10	0.10	760629	1
Lead	w	76-76	1(1)	NA	NA	0.50	0.50	760629	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	760629	1	0.01	0.01	0.00	NA	2
Cadmium	w	760629	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	760629	1	0.10	0.10	0.00	0.0006	NA
Lead	w	760629	1	0.50	0.50	0.00	0.0102	NA

<u>River</u>	Unnamed Tributary	<u>Station</u>	URE0001
<u>R. Mile</u>	.10	<u>Agency</u>	MDOEP
<u>Location</u>	Outfall from lower pond.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	76-76	1(1)	NA	NA	0.01	0.01	760629	1
Cadmium	w	76-76	1(1)	NA	NA	0.03	0.03	760629	1
Chromium	w	76-76	1(1)	NA	NA	0.10	0.10	760629	1
Lead	w	76-76	1(1)	NA	NA	0.50	0.50	760629	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	760629	1	0.01	0.01	0.00	NA	2
Cadmium	w	760629	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	760629	1	0.10	0.10	0.00	0.0006	NA
Lead	w	760629	1	0.50	0.50	0.00	0.0102	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Big Pipe Creek	<u>Station</u> BPC0213
<u>R. Mile</u>	21.30	<u>Agency</u> MDOEP
<u>Location</u>	Saw Mill Rd. Bridge, 1 mile S.E. of Union Mills	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740401	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740401	1
Copper	w	74-74	1(0)	NA	NA	0.05	0.05	740401	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740401	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740401	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740401	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740401	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740401	1	0.05	0.05	0.00	NA	NA
Lead	w	740401	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740401	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Big Pipe Creek	<u>Station</u> BPC0177
<u>R. Mile</u>	17.70	<u>Agency</u> MDOEP
<u>Location</u>	Arters Mill Road, 2 miles S.W. Silver Run	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740401	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740401	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740401	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740401	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740401	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740401	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740401	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740401	1	0.05	0.05	0.00	NA	NA
Lead	w	740401	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740401	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Big Pipe Creek	<u>Station</u>	BPC0120
<u>R. Mile</u>	12.00	<u>Agency</u>	MDOEP
<u>Location</u>	Rt. 32 Bridge, S.E. Taneytown		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740401	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740401	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740401	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740401	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740401	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740401	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740401	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740401	1	0.05	0.05	0.00	NA	NA
Lead	w	740401	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740401	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Big Pipe Creek	<u>Station</u>	BPC0035
<u>R. Mile</u>	3.5	<u>Agency</u>	21MDOEP
<u>Location</u>	Big Pipe Bridge on Biggs Ford Road		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	81-82	6(5)	NA	NA	0.05	0.08	811006	1
Cadmium	f	81-82	7(1)	NA	NA	0.14	0.43	811006	1
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740401	1
Chromium	w	74-82	8(6)	NA	NA	0.50	0.70	811006	1
Copper	f	81-82	7(1)	NA	NA	0.78	1.30	811006	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740401	1
Lead	f	81-82	7(2)	NA	NA	1.70	2.40	811006	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740401	1
Mercury	f	81-82	7(0)	NA	NA	0.09	0.19	811006	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740401	1
Zinc	f	81-82	7(0)	NA	NA	15.00	26.00	811006	1
Alpha BHC	f	81-82	7(3)	NA	NA	0.00	0.00	811006	1
Gamma BHC(Lindane)	f	81-82	7(7)	NA	NA	0.00	0.00	821015	7
Chlordane	f	81-82	7(0)	NA	NA	0.02	0.05	821015	1
Dieldrin	f	81-82	7(0)	NA	NA	0.01	0.01	821015	2
Endrin	f	81-82	7(7)	NA	NA	0.00	0.00	821015	7
Heptachlor Epoxide	f	81-82	7(7)	NA	NA	0.00	0.00	821015	3
PCB's	f	81-82	7(0)	NA	NA	0.03	0.07	811006	1
P,P'DDD	f	81-82	7(4)	NA	NA	0.00	0.00	811006	1
P,P'DDE	f	81-82	7(0)	NA	NA	0.02	0.04	821015	1
P,P'DDT	f	81-82	7(7)	NA	NA	0.00	0.00	821015	7
Toxaphene	f	81-82	7(6)	NA	NA	0.01	0.11	811006	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

Section BPC0035 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	821015	1	0.05	0.05	0.00	NA	70
Cadmium	f	821015	2	0.12	0.12	0.15	0.0368	NA
Cadmium	w	740401	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	821015	2	0.55	0.55	0.07	0.0031	NA
Copper	f	821015	2	0.88	0.88	0.11	0.0022	NA
Copper	w	740401	1	0.05	0.05	0.00	NA	NA
Lead	f	821015	2	1.90	1.90	0.28	0.1261	NA
Lead	w	740401	1	0.30	0.30	0.00	0.0061	NA
Mercury	f	821015	2	0.06	0.06	0.05	0.0027	NA
Mercury	w	740401	1	0.00	0.00	0.00	NA	NA
Zinc	f	821015	2	15.50	15.50	3.54	0.0069	NA
Alpha BHC	f	821015	2	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	821015	2	0.00	0.00	0.00	NA	NA
Chlordane	f	821015	2	0.05	0.05	0.01	0.0845	7
Dieldrin	f	821015	2	0.01	0.01	0.00	NA	20
Endrin	f	821015	2	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	821015	2	0.00	0.00	0.00	0.0023	NA
PCB's	f	821015	2	0.03	0.03	0.01	NA	12
P,P'DDD	f	821015	2	0.00	0.00	0.00	NA	NA
P,P'DDE	f	821015	2	0.04	0.04	0.01	NA	NA
P,P'DDT	f	821015	2	0.00	0.00	0.00	NA	NA
Toxaphene	f	821015	2	0.01	0.01	0.00	NA	1

<u>River</u>	Little Pipe Creek	<u>Station</u>	LPC0199
<u>R. Mile</u>	19.90	<u>Agency</u>	MDOEP
<u>Location</u>	Bridge on Rt. 622		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740401	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740401	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740401	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740401	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740401	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740401	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740401	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740401	1	0.05	0.05	0.00	NA	NA
Lead	w	740401	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740401	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Little Pipe Creek	<u>Station</u>	LPC0193
<u>R. Mile</u>	19.30	<u>Agency</u>	MDOEP
<u>Location</u>	Church Rd. Bridge below Copps Bridge.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740401	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740401	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740401	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740401	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740401	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740401	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740401	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740401	1	0.05	0.05	0.00	NA	NA
Lead	w	740401	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740401	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Dickenson Run	<u>Station</u>	DIC0020
<u>R. Mile</u>	2.00	<u>Agency</u>	MDOEP
<u>Location</u>	One mile SE New Windsor on Wakefield Valley Rd.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740401	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740401	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740401	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740401	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740401	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740401	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740401	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740401	1	0.05	0.05	0.00	NA	NA
Lead	w	740401	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740401	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Little Pipe Creek	<u>Station</u>	LPC0144
<u>R. Mile</u>	14.40	<u>Agency</u>	MDOEP
<u>Location</u>	Bridge on MD 75		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740401	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740401	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740401	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740401	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740401	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740401	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740401	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740401	1	0.05	0.05	0.00	NA	NA
Lead	w	740401	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740401	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Hunting Creek	<u>Station</u>	HUN0116
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Park ent. Rd. X-ing off Catoctin Hollow Rd.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	78-78	1(1)	NA	NA	0.05	0.05	780815	1
Chromium	w	78-78	1(1)	NA	NA	0.05	0.05	780815	1
Copper	w	78-78	1(1)	NA	NA	0.05	0.05	780815	1
Lead	w	78-78	1(1)	NA	NA	0.50	0.50	780815	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	780815	1	0.05	0.05	0.00	0.0049	NA
Chromium	w	780815	1	0.05	0.05	0.00	0.0003	NA
Copper	w	780815	1	0.05	0.05	0.00	NA	NA
Lead	w	780815	1	0.50	0.50	0.00	0.0102	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Cunningham Falls	<u>Station</u>	CUN0001
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Park Rd. X-ing off Catoctin Hollow Road		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	78-78	1(1)	NA	NA	0.05	0.05	780815	1
Chromium	w	78-78	1(1)	NA	NA	0.05	0.05	780815	1
Copper	w	78-78	1(1)	NA	NA	0.05	0.05	780815	1
Lead	w	78-78	1(1)	NA	NA	0.50	0.50	780815	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	780815	1	0.05	0.05	0.00	0.0049	NA
Chromium	w	780815	1	0.05	0.05	0.00	0.0003	NA
Copper	w	780815	1	0.05	0.05	0.00	NA	NA
Lead	w	780815	1	0.50	0.50	0.00	0.0102	NA

<u>River</u>	Cunningham Falls	<u>Station</u>	CUN0021
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	1st X-ing E. of Rt. 77		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	78-78	1(1)	NA	NA	0.05	0.05	780815	1
Chromium	w	78-78	1(1)	NA	NA	0.05	0.05	780815	1
Copper	w	78-78	1(1)	NA	NA	0.05	0.05	780815	1
Lead	w	78-78	1(1)	NA	NA	0.50	0.50	780815	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	780815	1	0.05	0.05	0.00	0.0049	NA
Chromium	w	780815	1	0.05	0.05	0.00	0.0003	NA
Copper	w	780815	1	0.05	0.05	0.00	NA	NA
Lead	w	780815	1	0.50	0.50	0.00	0.0102	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Hunting Creek	<u>Station</u>	HUN0112
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	D/S dam between dam and blockhouse		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	78-78	1(1)	NA	NA	0.05	0.05	780815	1
Chromium	w	78-78	1(1)	NA	NA	0.05	0.05	780815	1
Copper	w	78-78	1(1)	NA	NA	0.05	0.05	780815	1
Lead	w	78-78	1(1)	NA	NA	0.50	0.50	780815	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	780815	1	0.05	0.05	0.00	0.0049	NA
Chromium	w	780815	1	0.05	0.05	0.00	0.0003	NA
Copper	w	780815	1	0.05	0.05	0.00	NA	NA
Lead	w	780815	1	0.50	0.50	0.00	0.0102	NA

<u>River</u>	Hunting Creek	<u>Station</u>	HUN0097
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Rd. X-ing at Camp Peniel		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	78-78	1(1)	NA	NA	0.05	0.05	780815	1
Chromium	w	78-78	1(1)	NA	NA	0.05	0.05	780815	1
Copper	w	78-78	1(1)	NA	NA	0.05	0.05	780815	1
Lead	w	78-78	1(1)	NA	NA	0.50	0.50	780815	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	780815	1	0.05	0.05	0.00	0.0049	NA
Chromium	w	780815	1	0.05	0.05	0.00	0.0003	NA
Copper	w	780815	1	0.05	0.05	0.00	NA	NA
Lead	w	780815	1	0.50	0.50	0.00	0.0102	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Hunting Creek	<u>Station</u>	01641000
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Jimtown, Frederick Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	82-82	1(1)	NA	NA	1.00	1.00	820813	1
Cadmium	s	82-82	1(1)	NA	NA	1.00	1.00	820813	1
Chromium	s	82-82	1(0)	NA	NA	3.00	3.00	820813	1
Copper	s	82-82	1(0)	NA	NA	8.00	8.00	820813	1
Lead	s	82-82	1(0)	NA	NA	10.00	10.00	820813	1
Mercury	s	82-82	1(1)	NA	NA	0.01	0.01	820813	1
Zinc	s	82-82	1(0)	NA	NA	37.00	37.00	820813	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	820813	1	1.00	1.00	0.00	NA	NA
Cadmium	s	820813	1	1.00	1.00	0.00	NA	NA
Chromium	s	820813	1	3.00	3.00	0.00	NA	NA
Copper	s	820813	1	8.00	8.00	0.00	NA	NA
Lead	s	820813	1	10.00	10.00	0.00	NA	NA
Mercury	s	820813	1	0.01	0.01	0.00	NA	NA
Zinc	s	820813	1	37.00	37.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Monocacy River	<u>Station</u>	MON0299
<u>R. Mile</u>	29.90	<u>Agency</u>	MDOEP
<u>Location</u>	Devilbis Bridge on Devilbis Bridge Road		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	80-80	2(0)	NA	NA	0.08	0.08	801016	2
Cadmium	f	80-80	2(0)	NA	NA	0.21	0.23	801016	1
Chromium	w	80-80	2(0)	NA	NA	0.26	0.27	801016	1
Copper	f	80-80	2(0)	NA	NA	0.61	0.75	801016	1
Lead	f	80-80	2(0)	NA	NA	0.95	1.20	801016	1
Mercury	f	80-80	2(0)	NA	NA	0.10	0.11	801016	1
Zinc	f	80-80	2(0)	NA	NA	11.00	11.00	801016	2
Alpha BHC	f	80-80	2(0)	NA	NA	0.00	0.00	801016	1
Gamma BHC(Lindane)	f	80-80	2(0)	NA	NA	0.00	0.00	801016	2
Chlordane	f	80-80	2(0)	NA	NA	0.06	0.09	801016	1
Dieldrin	f	80-80	2(1)	NA	NA	0.00	0.01	801016	1
Endrin	f	80-80	2(2)	NA	NA	0.00	0.00	801016	2
Heptachlor Epoxide	f	80-80	2(2)	NA	NA	0.00	0.00	801016	2
PCB's	f	80-80	2(0)	NA	NA	0.07	0.07	801016	1
P,P'DDD	f	80-80	2(0)	NA	NA	0.01	0.01	801016	1
P,P'DDE	f	80-80	2(0)	NA	NA	0.03	0.03	801016	1
P,P'DDT	f	80-80	2(0)	NA	NA	0.01	0.01	801016	1
Toxaphene	f	80-80	2(2)	NA	NA	0.01	0.01	801016	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	801016	2	0.08	0.08	0.00	NA	111
Cadmium	f	801016	2	0.21	0.21	0.02	0.0689	NA
Chromium	w	801016	2	0.26	0.26	0.01	0.0015	NA
Copper	f	801016	2	0.61	0.61	0.20	0.0015	NA
Lead	f	801016	2	0.95	0.95	0.35	0.0630	NA
Mercury	f	801016	2	0.10	0.10	0.01	0.0048	NA
Zinc	f	801016	2	11.00	11.00	0.00	0.0049	NA
Alpha BHC	f	801016	2	0.00	0.00	0.00	NA	3
Gamma BHC(Lindane)	f	801016	2	0.00	0.00	0.00	NA	NA
Chlordane	f	801016	2	0.06	0.06	0.05	0.1022	8
Dieldrin	f	801016	2	0.00	0.00	0.00	NA	9
Endrin	f	801016	2	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	801016	2	0.00	0.00	0.00	0.0015	NA
PCB's	f	801016	2	0.07	0.07	0.01	NA	26
P,P'DDD	f	801016	2	0.01	0.01	0.00	NA	NA
P,P'DDE	f	801016	2	0.03	0.03	0.01	NA	NA
P,P'DDT	f	801016	2	0.01	0.01	0.00	NA	NA
Toxaphene	f	801016	2	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Monocacy River	<u>Station</u>	MON0269
<u>R. Mile</u>	26.9	<u>Agency</u>	21MDOEP
<u>Location</u>	Bridge on Biggs Ford Road		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	79-84	10(5)	0.00	0.110	0.06	0.09	831018	1
Cadmium	f	79-85	13(1)	0.04	0.090	0.27	0.67	851009	1
Chromium	w	79-85	13(5)	0.10	0.280	0.50	1.50	831018	1
Copper	f	79-85	13(0)	0.22	0.070	0.72	3.10	851009	1
Lead	f	79-85	13(2)	0.43	0.130	1.70	3.80	841018	1
Mercury	f	79-85	13(0)	0.00	0.350	0.06	0.13	831018	1
Zinc	f	79-85	13(0)	0.83	0.350	19.00	29.00	841018	2
Alpha BHC	f	79-85	13(9)	0.00	0.160	0.00	0.01	821015	1
Gamma BHC(Lindane)	f	79-85	13(12)	0.00	0.500	0.00	0.00	821015	2
Chlordane	f	79-85	13(0)	0.00	0.500	0.06	0.74	831018	1
Dieldrin	f	79-85	13(2)	0.00	0.350	0.00	0.02	811006	1
Endrin	f	79-85	13(11)	0.00	0.280	0.00	0.01	791023	1
Heptachlor Epoxida	f	79-85	13(7)	0.00	0.170	0.00	0.01	831018	1
Hexachlorobenzene	f	85-85	3(2)	NA	NA	0.00	0.00	851009	1
PCB-1242	f	85-85	3(3)	NA	NA	0.01	0.01	851009	3
PCB-1254	f	85-85	3(0)	NA	NA	0.02	0.03	851009	1
PCB1260	f	85-85	3(0)	NA	NA	0.02	0.03	851009	1
PCB's	f	79-85	13(0)	0.00	0.350	0.08	0.15	791023	1
P,P'DDD	f	79-85	13(3)	0.00	0.500	0.01	0.05	831018	1
P,P'DDE	f	79-85	13(0)	0.01	0.130	0.03	0.08	831018	1
P,P'DDT	f	79-85	13(11)	0.00	0.120	0.00	0.01	791023	1
Toxaphene	f	79-85	13(12)	0.00	0.500	0.01	0.15	821015	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	841018	1	0.07	0.07	0.00	NA	97
Cadmium	f	851009	4	0.29	0.31	0.28	0.0929	NA
Chromium	w	851009	4	0.65	0.70	0.22	0.0037	NA
Copper	f	851009	4	2.05	2.15	0.73	0.0051	NA
Lead	f	851009	4	1.65	2.05	1.20	0.1095	NA
Mercury	f	851009	4	0.07	0.07	0.04	0.0033	NA
Zinc	f	851009	4	24.50	23.00	6.48	0.0108	NA
Alpha BHC	f	851009	4	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	851009	4	0.00	0.00	0.00	NA	NA
Chlordane	f	851009	4	0.04	0.06	0.04	0.0818	7
Dieldrin	f	851009	4	0.00	0.01	0.01	NA	10
Endrin	f	851009	4	0.00	0.00	0.00	NA	NA
Heptachlor Epoxida	f	851009	4	0.00	0.00	0.00	0.0062	NA
Hexachlorobenzene	f	851009	3	0.00	0.00	0.00	NA	NA
PCB-1242	f	851009	3	0.01	0.01	0.00	NA	4
PCB-1254	f	851009	3	0.02	0.02	0.01	NA	8
PCB1260	f	851009	3	0.02	0.02	0.01	NA	8
PCB's	f	851009	4	0.05	0.05	0.02	NA	20
P,P'DDD	f	851009	4	0.01	0.01	0.01	NA	NA
P,P'DDE	f	851009	4	0.03	0.04	0.02	NA	NA
P,P'DDT	f	851009	4	0.00	0.00	0.00	NA	NA
Toxaphene	f	851009	4	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Monocacy River	<u>Station</u>	01641810
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Near Walkersville, Frederick Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	74-79	109(49)	0.00	0.020	1.00	3.00	771219	5
Cadmium	w	74-79	40(26)	0.00	0.110	2.00	9.00	780927	1
Chromium	w	74-79	99(89)	0.00	0.410	20.00	40.00	770309	1
Copper	w	74-79	80(28)	-4.50	0.000	6.00	60.00	740826	1
Lead	w	74-79	111(9)	3.00	0.000	6.00	35.00	780215	2
Silver	w	74-78	22(19)	0.00	0.500	2.00	3.00	780412	1
Zinc	w	74-79	95(49)	0.00	0.350	20.00	170.00	741021	1
Aldrin	s	82-82	1(1)	NA	NA	0.10	0.10	820819	1
Gamma BHC(Lindane)	s	82-82	1(1)	NA	NA	0.10	0.10	820819	1
Chlordane-dwt	s	82-82	1(1)	NA	NA	1.00	1.00	820819	1
Dieldrin	s	82-82	1(1)	NA	NA	0.10	0.10	820819	1
Endrin	s	82-82	1(1)	NA	NA	0.10	0.10	820819	1
Heptachlor	s	82-82	1(1)	NA	NA	0.10	0.10	820819	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790214	14	1.00	1.00	0.00	NA	429
Cadmium	w	790214	19	3.00	3.74	2.13	0.2959	NA
Chromium	w	790214	24	20.00	20.00	0.00	0.1144	NA
Copper	w	790214	22	4.00	4.36	2.77	0.0031	NA
Lead	w	790131	23	13.00	14.74	9.28	0.2656	NA
Silver	w	781011	7	2.00	2.14	0.38	0.0191	NA
Zinc	w	790214	18	20.00	31.67	21.49	0.0027	NA
Aldrin	s	820819	1	0.10	0.10	0.00	NA	NA
Gamma BHC(Lindane)	s	820819	1	0.10	0.10	0.00	NA	NA
Chlordane-dwt	s	820819	1	1.00	1.00	0.00	NA	NA
Dieldrin	s	820819	1	0.10	0.10	0.00	NA	NA
Endrin	s	820819	1	0.10	0.10	0.00	NA	NA
Heptachlor	s	820819	1	0.10	0.10	0.00	NA	NA

<u>River</u>	Carroll Creek	<u>Station</u>	CAR0053
<u>R. Mile</u>	5.30	<u>Agency</u>	MDOEP
<u>Location</u>	Rock Springs Rd. Bridge,		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	71-71	1(1)	NA	NA	0.05	0.05	710830	1
Copper	w	71-71	1(1)	NA	NA	0.03	0.03	710830	1
Nickel	w	71-71	1(1)	NA	NA	0.05	0.05	710830	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	710830	1	0.05	0.05	0.00	0.0003	NA
Copper	w	710830	1	0.03	0.03	0.00	NA	NA
Nickel	w	710830	1	0.05	0.05	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Carroll Creek	<u>Station</u>	CAR0022
<u>R. Mile</u>	2.20	<u>Agency</u>	MDOEP
<u>Location</u>	South Market Street Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	71-71	1(1)	NA	NA	0.05	0.05	710830	1
Chromium+6	w	70-70	1(0)	NA	NA	0.30	0.30	700803	1
Copper	w	71-71	1(1)	NA	NA	0.03	0.03	710830	1
Nickel	w	70-71	2(2)	NA	NA	0.03	0.05	710830	1
Cyanide	w	70-70	1(1)	NA	NA	0.00	0.00	700803	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	710830	1	0.05	0.05	0.00	0.0003	NA
Chromium+6	w	700803	1	0.30	0.30	0.00	0.0017	NA
Copper	w	710830	1	0.03	0.03	0.00	NA	NA
Nickel	w	710830	1	0.05	0.05	0.00	0.0001	NA
Cyanide	w	700803	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Carroll Creek	<u>Station</u>	CAR0019
<u>R. Mile</u>	1.90	<u>Agency</u>	MDOEP
<u>Location</u>	Below East Street Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	71-71	1(1)	NA	NA	0.05	0.05	710830	1
Chromium+6	w	70-70	1(0)	NA	NA	1.00	1.00	700803	1
Copper	w	71-71	1(1)	NA	NA	0.03	0.03	710830	1
Nickel	w	70-70	1(1)	NA	NA	0.01	0.01	700803	1
Cyanide	w	70-70	1(0)	NA	NA	0.30	0.30	700803	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	710830	1	0.05	0.05	0.00	0.0003	NA
Chromium+6	w	700803	1	1.00	1.00	0.00	0.0057	NA
Copper	w	710830	1	0.03	0.03	0.00	NA	NA
Nickel	w	700803	1	0.01	0.01	0.00	NA	NA
Cyanide	w	700803	1	0.30	0.30	0.00	0.0004	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Carroll Creek	<u>Station</u>	CAR0017
<u>R. Mile</u>	1.70	<u>Agency</u>	MDOEP
<u>Location</u>	E. Patrick Street Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	71-71	1(1)	NA	NA	0.05	0.05	710830	1
Chromium+6	w	70-70	1(0)	NA	NA	0.40	0.40	700803	1
Copper	w	71-71	1(1)	NA	NA	0.03	0.03	710830	1
Nickel	w	70-71	2(2)	NA	NA	0.03	0.05	710830	1
Cyanide	w	70-70	1(1)	NA	NA	0.00	0.00	700803	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	710830	1	0.05	0.05	0.00	0.0003	NA
Chromium+6	w	700803	1	0.40	0.40	0.00	0.0023	NA
Copper	w	710830	1	0.03	0.03	0.00	NA	NA
Nickel	w	710830	1	0.05	0.05	0.00	0.0001	NA
Cyanide	w	700803	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Linganore Creek	<u>Station</u>	01642500
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Near Frederick, Frederick Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Aldrin	s	82-82	1(1)	NA	NA	0.10	0.10	820811	1
Gamma BHC(Lindane)	s	82-82	1(1)	NA	NA	0.10	0.10	820811	1
Chlordane-dwt	s	82-82	1(1)	NA	NA	1.00	1.00	820811	1
Dieldrin	s	82-82	1(1)	NA	NA	0.10	0.10	820811	1
Endrin	s	82-82	1(1)	NA	NA	0.10	0.10	820811	1
Heptachlor	s	82-82	1(1)	NA	NA	0.10	0.10	820811	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Aldrin	s	820811	1	0.10	0.10	0.00	NA	NA
Gamma BHC(Lindane)	s	820811	1	0.10	0.10	0.00	NA	NA
Chlordane-dwt	s	820811	1	1.00	1.00	0.00	NA	NA
Dieldrin	s	820811	1	0.10	0.10	0.00	NA	NA
Endrin	s	820811	1	0.10	0.10	0.00	NA	NA
Heptachlor	s	820811	1	0.10	0.10	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Monocacy River	<u>Station</u>	MON0155
<u>R. Mile</u>	15.5	<u>Agency</u>	21MDOEP
<u>Location</u>	Bridge on Reels Mill Road		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	79-79	3(3)	NA	NA	0.05	0.05	791031	3
Cadmium	f	79-79	3(0)	NA	NA	0.22	0.26	791031	1
Chromium	w	79-79	3(0)	NA	NA	0.27	0.40	791031	1
Copper	f	79-79	3(0)	NA	NA	0.64	0.88	791031	1
Lead	f	79-79	3(0)	NA	NA	1.60	2.30	791031	1
Mercury	f	79-79	3(0)	NA	NA	0.07	0.18	791031	1
Zinc	f	79-79	3(0)	NA	NA	14.00	24.00	791031	1
Alpha BHC	f	79-79	3(2)	NA	NA	0.00	0.00	791031	3
Gamma BHC(Lindane)	f	79-79	3(3)	NA	NA	0.00	0.00	791031	3
Chlordane	f	79-79	3(0)	NA	NA	0.02	0.03	791031	1
Dieldrin	f	79-79	3(0)	NA	NA	0.00	0.01	791031	1
Endrin	f	79-79	3(3)	NA	NA	0.00	0.00	791031	3
Heptachlor Epoxide	f	79-79	3(3)	NA	NA	0.00	0.00	791031	3
PCB's	f	79-79	3(0)	NA	NA	0.05	0.09	791031	1
P,P'DDD	f	79-79	3(0)	NA	NA	0.01	0.01	791031	1
P,P'DDE	f	79-79	3(0)	NA	NA	0.01	0.03	791031	1
P,P'DDT	f	79-79	3(0)	NA	NA	0.01	0.01	791031	1
Toxaphene	f	79-79	3(3)	NA	NA	0.01	0.01	791031	3

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	791031	3	0.05	0.05	0.00	NA	70
Cadmium	f	791031	3	0.22	0.22	0.04	0.0705	NA
Chromium	w	791031	3	0.27	0.31	0.08	0.0015	NA
Copper	f	791031	3	0.64	0.70	0.16	0.0016	NA
Lead	f	791031	3	1.60	1.60	0.70	0.1062	NA
Mercury	f	791031	3	0.07	0.10	0.07	0.0031	NA
Zinc	f	791031	3	14.00	16.00	7.21	0.0062	NA
Alpha BHC	f	791031	3	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	791031	3	0.00	0.00	0.00	NA	NA
Chlordane	f	791031	3	0.02	0.02	0.01	0.0372	3
Dieldrin	f	791031	3	0.00	0.01	0.00	NA	11
Endrin	f	791031	3	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	791031	3	0.00	0.00	0.00	0.0015	NA
PCB's	f	791031	3	0.05	0.06	0.03	NA	20
P,P'DDD	f	791031	3	0.01	0.01	0.00	NA	NA
P,P'DDE	f	791031	3	0.01	0.02	0.01	NA	NA
P,P'DDT	f	791031	3	0.01	0.01	0.00	NA	NA
Toxaphene	f	791031	3	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Monocacy River	<u>Station</u>	01643020
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Reichs Ford Bridge near Frederick, Frederick Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	82-82	1(1)	NA	NA	1.00	1.00	820812	1
Arsenic	w	74-79	111(46)	0.00	0.140	1.00	4.00	770706	2
Cadmium	s	82-82	1(1)	NA	NA	1.00	1.00	820812	1
Cadmium	w	74-79	48(35)	0.00	0.180	2.00	5.00	780927	4
Chromium	w	73-79	97(86)	0.00	0.290	20.00	30.00	771219	2
Chromium	s	82-82	1(0)	NA	NA	4.00	4.00	820812	1
Copper	s	82-82	1(0)	NA	NA	2.00	2.00	820812	1
Copper	w	73-79	79(27)	-4.00	0.000	7.00	30.00	760728	1
Lead	s	82-82	1(0)	NA	NA	10.00	10.00	820812	1
Lead	w	73-79	120(4)	3.00	0.000	7.00	48.00	730914	1
Mercury	s	82-82	1(1)	NA	NA	0.01	0.01	820812	1
Silver	w	74-78	24(17)	-0.38	0.270	2.00	5.00	781025	2
Zinc	s	82-82	1(0)	NA	NA	13.00	13.00	820812	1
Zinc	w	73-79	102(53)	0.00	0.140	20.00	300.90	740327	1
Cyanide	w	72-73	4(0)	NA	NA	0.01	2.00	730914	1
Phenols	w	69-73	4(0)	NA	NA	1.50	3.00	730313	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	820812	1	1.00	1.00	0.00	NA	NA
Arsenic	w	790214	14	1.00	1.07	0.27	NA	429
Cadmium	s	820812	1	1.00	1.00	0.00	NA	NA
Cadmium	w	790214	22	2.00	2.91	1.23	0.1972	NA
Chromium	w	790214	24	20.00	20.00	0.00	0.1144	NA
Chromium	s	820812	1	4.00	4.00	0.00	NA	NA
Copper	s	820812	1	2.00	2.00	0.00	NA	NA
Copper	w	790214	22	4.00	4.59	3.79	0.0031	NA
Lead	s	820812	1	10.00	10.00	0.00	NA	NA
Lead	w	790131	23	14.00	19.13	12.67	0.2860	NA
Mercury	s	820812	1	0.01	0.01	0.00	NA	NA
Silver	w	781025	9	2.00	2.56	1.01	0.0191	NA
Zinc	s	820812	1	13.00	13.00	0.00	NA	NA
Zinc	w	790214	19	20.00	22.63	5.62	0.0027	NA
Cyanide	w	731205	4	0.01	0.51	0.99	NA	NA
Phenols	w	730914	3	2.00	2.00	1.00	0.0006	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Monocacy River	<u>Station</u>	MON0138
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Bridge on MD Rt. 355		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	80-84	12(5)	0.02	0.070	0.06	0.17	821020	1
Cadmium	f	80-85	14(1)	0.02	0.500	0.27	0.66	851008	1
Chromium	w	80-85	14(7)	0.19	0.080	0.50	1.80	831018	1
Copper	f	80-85	14(0)	0.52	0.030	0.76	6.60	841019	1
Lead	f	80-85	14(3)	-0.20	0.500	1.55	3.40	831018	2
Mercury	f	80-85	14(0)	-0.01	0.230	0.09	0.19	811007	1
Zinc	f	80-85	14(0)	-0.50	0.350	15.50	24.00	811007	1
Alpha BHC	f	80-85	14(8)	0.00	0.190	0.00	0.01	801016	1
Gamma BHC(Lindane)	f	80-85	14(10)	0.00	0.330	0.00	0.00	851008	1
Chlordane	f	80-85	14(0)	0.00	0.500	0.04	0.18	831018	1
Dieldrin	f	80-85	14(4)	0.00	0.350	0.00	0.02	841019	1
Endrin	f	80-85	14(14)	0.00	0.500	0.00	0.00	851008	14
Heptachlor Epoxide	f	80-85	14(7)	0.00	0.040	0.00	0.01	831018	1
Hexachlorobenzene	f	85-85	2(0)	NA	NA	0.01	0.01	851008	2
PCB-1242	f	85-85	2(1)	NA	NA	0.01	0.01	851008	2
PCB-1254	f	85-85	2(0)	NA	NA	0.04	0.04	851008	1
PCB1260	f	85-85	2(0)	NA	NA	0.04	0.06	851008	1
PCB's	f	80-85	14(0)	0.00	0.500	0.10	0.18	841019	1
P,P'DDD	f	80-85	14(3)	0.00	0.500	0.00	0.04	831018	1
P,P'DDE	f	80-85	14(0)	0.01	0.130	0.04	0.08	841019	1
P,P'DDT	f	80-85	14(12)	0.00	0.120	0.00	0.02	801016	1
Toxaphene	f	80-85	14(12)	0.00	0.280	0.01	0.24	811007	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	841019	1	0.13	0.13	0.00	NA	181
Cadmium	f	851008	3	0.28	0.39	0.24	0.0897	NA
Chromium	w	851008	3	0.90	0.93	0.45	0.0051	NA
Copper	f	851008	3	3.80	4.07	2.41	0.0095	NA
Lead	f	851008	3	1.30	1.03	0.46	0.0863	NA
Mercury	f	851008	3	0.09	0.09	0.01	0.0040	NA
Zinc	f	851008	3	11.00	11.77	3.91	0.0049	NA
Alpha BHC	f	851008	3	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	851008	3	0.00	0.00	0.00	NA	NA
Chlordane	f	851008	3	0.04	0.06	0.03	0.0799	6
Dieldrin	f	851008	3	0.00	0.01	0.01	NA	1
Endrin	f	851008	3	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	851008	3	0.00	0.00	0.00	0.0062	NA
Hexachlorobenzene	f	851008	2	0.01	0.01	0.00	NA	1
PCB-1242	f	851008	2	0.01	0.01	0.00	NA	4
PCB-1254	f	851008	2	0.04	0.04	0.01	NA	14
PCB1260	f	851008	2	0.04	0.04	0.03	NA	16
PCB's	f	851008	3	0.11	0.11	0.07	NA	44
P,P'DDD	f	851008	3	0.01	0.01	0.01	NA	NA
P,P'DDE	f	851008	3	0.06	0.06	0.02	NA	NA
P,P'DDT	f	851008	3	0.00	0.00	0.00	NA	NA
Toxaphene	f	851008	3	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Bennett Creek	<u>Station</u>	01643500
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Park Mills, Frederick Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Aldrin	s	82-82	1(1)	NA	NA	0.10	0.10	820823	1
Gamma BHC(Lindane)	s	82-82	1(1)	NA	NA	0.10	0.10	820823	1
Chlordane-dwt	s	82-82	1(1)	NA	NA	1.00	1.00	820823	1
Dieldrin	s	82-82	1(1)	NA	NA	0.10	0.10	820823	1
Endrin	s	82-82	1(1)	NA	NA	0.10	0.10	820823	1
Heptachlor	s	82-82	1(1)	NA	NA	0.10	0.10	820823	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Aldrin	s	820823	1	0.10	0.10	0.00	NA	NA
Gamma BHC(Lindane)	s	820823	1	0.10	0.10	0.00	NA	NA
Chlordane-dwt	s	820823	1	1.00	1.00	0.00	NA	NA
Dieldrin	s	820823	1	0.10	0.10	0.00	NA	NA
Endrin	s	820823	1	0.10	0.10	0.00	NA	NA
Heptachlor	s	820823	1	0.10	0.10	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Monocacy River	<u>Station</u>	MON0020
<u>R. Mile</u>	2.0	<u>Agency</u>	21MDOEP
<u>Location</u>	Bridge on Md. Rt. 28		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	79-84	13(9)	0.02	0.050	0.05	0.14	841019	1
Cadmium	f	79-85	14(0)	0.02	0.350	0.19	1.10	851008	1
Chromium	w	79-85	14(8)	0.19	0.030	0.38	1.30	851008	1
Copper	f	79-85	14(2)	0.37	0.130	0.54	7.40	841019	1
Lead	f	79-85	14(1)	0.12	0.500	1.45	3.50	811007	1
Mercury	f	79-85	14(0)	0.00	0.500	0.06	0.11	811007	1
Zinc	f	79-85	14(0)	-2.42	0.130	18.50	25.00	811007	2
Alpha BHC	f	79-85	14(9)	0.00	0.280	0.00	0.01	811007	1
Gamma BHC(Lindane)	f	79-85	14(8)	0.00	0.200	0.00	0.00	801016	1
Chlordane	f	79-85	14(0)	0.00	0.170	0.04	0.14	811007	1
Dieldrin	f	79-85	14(2)	0.00	0.500	0.00	0.01	811007	1
Endrin	f	79-85	14(13)	0.00	0.500	0.00	0.00	791023	1
Heptachlor Epoxida	f	79-85	14(7)	0.00	0.120	0.00	0.00	841019	1
Hexachlorobenzene	f	85-85	1(0)	NA	NA	0.00	0.00	851008	1
PCB-1242	f	85-85	1(1)	NA	NA	0.01	0.01	851008	1
PCB-1254	f	85-85	1(0)	NA	NA	0.03	0.03	851008	1
PCB1260	f	85-85	1(0)	NA	NA	0.07	0.07	851008	1
PCB's	f	79-85	14(0)	0.00	0.350	0.11	0.17	801016	1
P,P'DDD	f	79-85	14(0)	0.00	0.500	0.00	0.02	841019	1
P,P'DDE	f	79-85	14(0)	0.00	0.350	0.04	0.08	841019	1
P,P'DDT	f	79-85	14(10)	0.00	0.120	0.00	0.00	791023	1
Toxaphene	f	79-85	14(11)	0.00	0.500	0.01	0.33	811007	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	841019	1	0.14	0.14	0.00	NA	195
Cadmium	f	851008	2	0.63	0.63	0.66	0.2034	NA
Chromium	w	851008	2	1.00	1.00	0.42	0.0057	NA
Copper	f	851008	2	4.90	4.90	3.54	0.0123	NA
Lead	f	851008	2	1.45	1.45	0.78	0.0962	NA
Mercury	f	851008	2	0.05	0.05	0.02	0.0023	NA
Zinc	f	851008	2	12.90	12.90	7.21	0.0057	NA
Alpha BHC	f	851008	2	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	851008	2	0.00	0.00	0.00	NA	NA
Chlordane	f	851008	2	0.05	0.05	0.01	0.0883	7
Dieldrin	f	851008	2	0.01	0.01	0.01	NA	16
Endrin	f	851008	2	0.00	0.00	0.00	NA	NA
Heptachlor Epoxida	f	851008	2	0.00	0.00	0.00	0.0077	1
Hexachlorobenzene	f	851008	1	0.00	0.00	0.00	NA	NA
PCB-1242	f	851008	1	0.01	0.01	0.00	NA	4
PCB-1254	f	851008	1	0.03	0.03	0.00	NA	12
PCB1260	f	851008	1	0.07	0.07	0.00	NA	28
PCB's	f	851008	2	0.13	0.13	0.04	NA	50
P,P'DDD	f	851008	2	0.01	0.01	0.01	NA	NA
P,P'DDE	f	851008	2	0.06	0.06	0.03	NA	NA
P,P'DDT	f	851008	2	0.00	0.00	0.00	NA	NA
Toxaphene	f	851008	2	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Potomac River	<u>Station</u>	POT1471
<u>R. Mile</u>	147.1	<u>Agency</u>	21MDOEP
<u>Location</u>	Eastern Terminus of Whites Ferry		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	79-84	14(5)	0.02	0.120	0.07	0.17	831024	1
Cadmium	f	79-84	14(0)	0.04	0.070	0.15	0.59	831024	1
Chromium	w	79-84	14(7)	0.08	0.280	0.50	0.70	811007	2
Copper	f	79-84	14(3)	0.28	0.030	0.53	9.50	841015	1
Lead	f	79-84	14(1)	0.28	0.230	1.60	3.70	811007	1
Mercury	f	79-84	14(0)	-0.01	0.230	0.09	0.19	811007	1
Zinc	f	79-84	14(0)	3.05	0.230	9.85	120.00	831024	1
Alpha BHC	f	79-84	14(9)	0.00	0.040	0.00	0.01	801007	1
Gamma BHC(Lindane)	f	79-84	14(10)	0.00	0.110	0.00	0.00	841015	1
Chlordane	f	79-84	14(0)	0.01	0.500	0.06	0.27	831024	1
Dieldrin	f	79-84	14(1)	0.00	0.230	0.00	0.01	811007	2
Endrin	f	79-84	14(11)	0.00	0.040	0.00	0.00	791031	1
Heptachlor Epoxida	f	79-84	14(7)	0.00	0.040	0.00	0.01	831024	1
PCB's	f	79-84	14(0)	-0.01	0.070	0.12	0.15	791031	1
P,P'DDD	f	79-84	14(2)	0.00	0.500	0.01	0.03	831024	1
P,P'DDE	f	79-84	14(0)	0.00	0.230	0.04	0.09	831024	1
P,P'DDT	f	79-84	14(10)	0.00	0.090	0.00	0.02	801007	1
Toxaphene	f	79-84	14(12)	0.00	0.500	0.01	0.26	811007	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	841015	4	0.16	0.15	0.02	NA	216
Cadmium	f	841015	4	0.20	0.28	0.21	0.0641	NA
Chromium	w	841015	4	0.50	0.50	0.00	0.0029	NA
Copper	f	841015	4	2.69	3.88	4.15	0.0067	NA
Lead	f	841015	4	1.85	2.10	0.98	0.1228	NA
Mercury	f	841015	4	0.08	0.07	0.04	0.0037	NA
Zinc	f	841015	4	9.45	36.05	56.08	0.0042	NA
Alpha BHC	f	841015	4	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	841015	4	0.00	0.00	0.00	NA	NA
Chlordane	f	841015	4	0.14	0.15	0.10	0.2601	21
Dieldrin	f	841015	4	0.00	0.00	0.00	NA	8
Endrin	f	841015	4	0.00	0.00	0.00	NA	NA
Heptachlor Epoxida	f	841015	4	0.00	0.00	0.00	0.0108	1
PCB's	f	841015	4	0.07	0.08	0.04	NA	29
P,P'DDD	f	841015	4	0.02	0.02	0.01	NA	NA
P,P'DDE	f	841015	4	0.06	0.06	0.03	NA	NA
P,P'DDT	f	841015	4	0.00	0.00	0.00	NA	NA
Toxaphene	f	841015	4	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Limestone Branch	<u>Station</u>	1ALIM001.16
<u>R. Mile</u>	001.16	<u>Agency</u>	VASWCB
<u>Location</u>	Route 15 Bridge, Loudoun Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	77-78	2(2)	NA	NA	2.00	2.00	781128	2
Cadmium	w	75-78	3(3)	NA	NA	10.00	10.00	781128	1
Chromium	w	75-78	3(1)	NA	NA	10.00	10.00	781128	1
Copper	w	75-78	3(3)	NA	NA	10.00	10.00	781128	1
Lead	w	75-78	3(0)	NA	NA	3.00	27.99	770322	1
Mercury	w	75-78	3(3)	NA	NA	0.50	5.00	770322	1
Zinc	w	75-77	2(1)	NA	NA	29.99	49.99	770322	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	781128	1	2.00	2.00	0.00	NA	858
Cadmium	w	781128	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	781128	1	10.00	10.00	0.00	0.0572	NA
Copper	w	781128	1	10.00	10.00	0.00	0.0077	NA
Lead	w	781128	1	2.00	2.00	0.00	0.0409	NA
Mercury	w	781128	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	770322	1	49.99	49.99	0.00	0.0068	NA

<u>River</u>	Tuscarora Creek	<u>Station</u>	1ATUS003.19
<u>R. Mile</u>	003.19	<u>Agency</u>	VASWCB
<u>Location</u>	Route 643 Bridge, Loudoun Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	10(10)	-0.38	0.100	2.50	5.00	720525	4
Cadmium	w	71-78	11(11)	0.00	0.360	10.00	10.00	781002	2
Chromium	w	70-78	18(13)	0.00	0.500	10.00	19.99	700406	1
Copper	w	70-78	18(10)	0.00	0.160	10.00	99.99	771028	1
Lead	w	70-78	14(7)	0.11	0.500	10.00	17.00	781002	1
Mercury	w	70-78	16(14)	0.00	0.250	0.50	5.00	720525	1
Zinc	w	70-78	18(5)	0.00	0.400	10.00	39.99	771028	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	781002	3	2.00	2.00	0.00	NA	858
Cadmium	w	781002	3	10.00	10.00	0.00	0.9862	NA
Chromium	w	781002	3	10.00	10.00	0.00	0.0572	NA
Copper	w	781002	3	10.00	40.00	51.96	0.0077	NA
Lead	w	781002	3	8.00	9.33	7.09	0.1634	NA
Mercury	w	781002	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	781002	3	30.00	26.66	15.27	0.0041	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Tuscarora Creek	<u>Station</u> 1ATUS000.37
<u>R. Mile</u>	145.20-2.40-.37	<u>Agency</u> VASWCB
<u>Location</u>	Route 653 Bridge, Loudoun Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	79-86	7(0)	-2.03	0.500	8.20	49.00	790830	1
Arsenic	w	71-86	17(14)	-0.33	0.010	2.00	10.00	720525	1
Beryllium	s	83-83	1(0)	NA	NA	0.75	0.75	830504	1
Beryllium	w	83-86	3(2)	NA	NA	1.60	2.10	860812	1
Cadmium	s	79-86	7(6)	-0.01	0.500	0.16	0.49	790830	1
Cadmium	w	71-86	19(18)	0.00	0.330	10.00	10.00	810803	4
Chromium	w	70-86	26(17)	0.00	0.500	10.00	20.00	781031	1
Chromium	s	79-86	7(0)	4.40	0.500	71.40	81.10	860812	1
Copper	s	79-86	7(0)	-10.40	0.500	47.30	78.50	810504	1
Copper	w	70-86	26(16)	0.00	0.050	10.00	19.99	710421	2
Lead	s	79-86	7(0)	-9.63	0.150	16.30	45.20	810504	1
Lead	w	70-86	23(12)	-0.52	0.060	10.00	17.99	751009	1
Mercury	s	79-86	6(4)	-0.02	0.500	0.15	0.33	820401	1
Mercury	w	70-86	23(21)	0.00	0.190	0.50	0.70	750522	1
Nickel	s	79-86	7(0)	-2.87	0.150	20.70	28.60	810504	1
Nickel	w	79-86	7(5)	22.50	0.270	10.00	100.00	860715	1
Selenium	w	83-86	4(2)	NA	NA	2.15	4.20	860812	1
Zinc	s	79-86	7(0)	-19.53	0.500	55.40	114.00	810504	1
Zinc	w	70-86	26(10)	0.00	0.200	10.00	129.90	731219	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830504	1
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830607	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860812	1	12.50	12.50	0.00	NA	NA
Arsenic	w	860715	1	1.00	1.00	0.00	NA	429
Beryllium	s	830504	1	0.75	0.75	0.00	NA	NA
Beryllium	w	860812	1	2.10	2.10	0.00	0.1201	NA
Cadmium	s	860812	1	0.21	0.21	0.00	NA	NA
Cadmium	w	860715	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	860715	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860812	1	81.10	81.10	0.00	NA	NA
Copper	s	860812	1	72.80	72.80	0.00	NA	NA
Copper	w	860715	1	10.00	10.00	0.00	0.0077	NA
Lead	s	860812	1	12.50	12.50	0.00	NA	NA
Lead	w	860715	1	1.00	1.00	0.00	0.0204	NA
Mercury	s	860812	1	0.14	0.14	0.00	NA	NA
Mercury	w	860715	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860812	1	27.00	27.00	0.00	NA	NA
Nickel	w	860715	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860812	1	4.20	4.20	0.00	0.0400	NA
Zinc	s	860812	1	70.70	70.70	0.00	NA	NA
Zinc	w	860715	1	10.00	10.00	0.00	0.0014	NA
Aldrin	s	830504	1	0.02	0.02	0.00	NA	NA
Aldrin	w	830607	1	0.10	0.10	0.00	0.0953	33

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	North Fork Goose Creek	<u>Station</u>	LANOG005.69
<u>R. Mile</u>	147.76-15.90-5.69	<u>Agency</u>	21 VASWCB
<u>Location</u>	Route 722 Bridge, Loudoun Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	79-86	7(3)	-0.03	0.500	5.30	50.00	790830	1
Arsenic	w	71-86	18(14)	-0.33	0.110	2.00	6.00	720525	1
Beryllium	s	83-83	1(0)	NA	NA	0.52	0.52	830504	1
Beryllium	w	84-86	2(1)	NA	NA	1.95	2.10	860812	1
Cadmium	s	79-86	7(7)	-0.01	0.500	0.20	0.50	790830	1
Cadmium	w	71-86	18(16)	0.00	0.500	10.00	10.00	810803	4
Chromium	w	70-86	26(20)	0.00	0.500	10.00	19.99	700406	1
Chromium	s	79-86	7(0)	-0.23	0.500	16.00	18.60	860812	1
Copper	s	79-86	7(0)	-0.40	0.500	16.80	23.30	860812	1
Copper	w	70-86	26(20)	0.00	0.010	10.00	19.99	771125	1
Lead	s	79-86	7(1)	-1.23	0.500	11.00	16.60	830504	1
Lead	w	70-86	24(11)	0.00	0.350	10.00	12.00	810803	2
Mercury	s	79-86	6(5)	-0.01	0.500	0.16	0.79	820401	1
Mercury	w	70-86	25(23)	0.00	0.270	0.50	0.50	771121	4
Nickel	s	79-86	7(1)	-0.63	0.500	7.10	10.60	860812	1
Nickel	w	79-86	6(5)	22.50	0.150	10.00	100.00	860715	1
Selenium	w	84-86	3(1)	NA	NA	2.10	3.50	840508	1
Zinc	s	79-86	7(0)	-3.20	0.500	53.40	76.20	860812	1
Zinc	w	70-86	26(11)	0.00	0.200	10.00	99.99	720802	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830504	1
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830607	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860812	1	8.50	8.50	0.00	NA	NA
Arsenic	w	860715	1	1.00	1.00	0.00	NA	429
Beryllium	s	830504	1	0.52	0.52	0.00	NA	NA
Beryllium	w	860812	1	2.10	2.10	0.00	0.1201	NA
Cadmium	s	860812	1	0.20	0.20	0.00	NA	NA
Cadmium	w	860715	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	860715	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860812	1	18.60	18.60	0.00	NA	NA
Copper	s	860812	1	23.30	23.30	0.00	NA	NA
Copper	w	860715	1	10.00	10.00	0.00	0.0077	NA
Lead	s	860812	1	14.80	14.80	0.00	NA	NA
Lead	w	860715	1	1.00	1.00	0.00	0.0204	NA
Mercury	s	860812	1	0.10	0.10	0.00	NA	NA
Mercury	w	860715	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860812	1	10.60	10.60	0.00	NA	NA
Nickel	w	860715	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860812	1	2.10	2.10	0.00	0.0200	NA
Zinc	s	860812	1	76.20	76.20	0.00	NA	NA
Zinc	w	860715	1	10.00	10.00	0.00	0.0014	NA
Aldrin	s	830504	1	0.02	0.02	0.00	NA	NA
Aldrin	w	830607	1	0.10	0.10	0.00	0.0953	33

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Goose Creek	<u>Station</u>	LAG00044.36
<u>R. Mile</u>	044.36	<u>Agency</u>	VASWCB
<u>Location</u>	Route 17 Bridge, Fauquier Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	77-78	3(3)	NA	NA	2.00	2.00	781031	3
Cadmium	w	77-78	3(3)	NA	NA	10.00	10.00	781031	1
Chromium	w	75-78	4(4)	NA	NA	10.00	10.00	781031	1
Copper	w	75-78	4(4)	NA	NA	10.00	10.00	781031	1
Lead	w	75-78	4(0)	NA	NA	8.00	16.99	750520	1
Mercury	w	75-78	4(3)	NA	NA	0.50	1.50	770321	1
Zinc	w	75-78	4(2)	NA	NA	15.00	69.99	770321	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	781031	2	2.00	2.00	0.00	NA	858
Cadmium	w	781031	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	781031	2	10.00	10.00	0.00	0.0572	NA
Copper	w	781031	2	10.00	10.00	0.00	0.0077	NA
Lead	w	781031	2	5.50	5.50	3.54	0.1124	NA
Mercury	w	781031	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	781031	2	15.00	15.00	7.07	0.0020	NA

<u>River</u>	Goose Creek	<u>Station</u>	LAG00030.75
<u>R. Mile</u>	030.75	<u>Agency</u>	VASWCB
<u>Location</u>	Route 611 Bridge, Fauquier Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-78	9(9)	NA	NA	5.00	5.00	721222	6
Cadmium	w	71-78	10(10)	-4.50	0.270	10.00	10.00	781031	1
Chromium	w	70-78	18(13)	0.00	0.500	10.00	19.99	700406	1
Copper	w	70-78	18(12)	0.00	0.140	10.00	29.99	710421	1
Lead	w	70-78	16(10)	0.00	0.270	10.00	12.99	770321	1
Mercury	w	70-78	17(15)	0.00	0.190	0.50	0.70	750520	1
Zinc	w	70-78	18(10)	0.00	0.270	10.00	99.99	731219	1
Aldrin	w	76-76	1(0)	NA	NA	0.02	0.02	760505	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	781031	1	2.00	2.00	0.00	NA	858
Cadmium	w	781031	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	781031	1	10.00	10.00	0.00	0.0572	NA
Copper	w	781031	1	10.00	10.00	0.00	0.0077	NA
Lead	w	781031	1	7.00	7.00	0.00	0.1430	NA
Mercury	w	781031	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	781031	1	10.00	10.00	0.00	0.0014	NA
Aldrin	w	760505	1	0.02	0.02	0.00	0.0191	7

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Goose Creek	<u>Station</u>	LAG0022.44
<u>R. Mile</u>	022.44	<u>Agency</u>	VASWCB
<u>Location</u>	Route 734 Bridge, Loudoun Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	79-86	7(4)	-1.57	0.500	2.10	41.00	790830	1
Arsenic	w	75-86	12(10)	-0.17	0.150	1.00	3.00	751007	1
Beryllium	s	83-83	1(0)	NA	NA	0.64	0.64	830504	1
Beryllium	w	83-86	3(2)	NA	NA	2.10	2.10	860812	2
Cadmium	s	79-86	7(7)	0.00	0.500	0.20	0.41	790830	1
Cadmium	w	75-86	12(12)	0.00	0.270	10.00	10.00	810803	4
Chromium	w	75-86	13(10)	0.00	0.270	10.00	10.00	810803	4
Chromium	s	79-86	7(0)	-1.27	0.500	13.10	22.00	860812	1
Copper	s	79-86	7(0)	-4.87	0.500	6.20	23.20	860812	1
Copper	w	75-86	11(11)	NA	NA	10.00	10.00	860715	8
Lead	s	79-86	7(0)	-2.53	0.500	12.70	21.90	830504	1
Lead	w	75-86	13(5)	-2.75	0.210	4.00	19.00	820712	1
Mercury	s	79-86	6(5)	-0.02	0.500	0.18	0.96	790830	1
Mercury	w	75-86	13(12)	0.00	0.270	0.30	0.50	771121	4
Nickel	s	79-86	7(0)	-2.30	0.150	4.60	10.40	860812	1
Nickel	w	79-86	7(6)	22.50	0.270	10.00	100.00	860715	1
Selenium	w	83-86	4(3)	NA	NA	1.55	2.10	860812	2
Zinc	s	79-86	7(0)	-20.07	0.500	25.30	85.50	810504	1
Zinc	w	75-86	13(9)	0.00	0.330	10.00	20.00	850709	2
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830504	1
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830607	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860812	1	8.30	8.30	0.00	NA	NA
Arsenic	w	860715	1	1.00	1.00	0.00	NA	429
Beryllium	s	830504	1	0.64	0.64	0.00	NA	NA
Beryllium	w	860812	1	2.10	2.10	0.00	0.1201	NA
Cadmium	s	860812	1	0.21	0.21	0.00	NA	NA
Cadmium	w	860715	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	860715	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860812	1	22.00	22.00	0.00	NA	NA
Copper	s	860812	1	23.20	23.20	0.00	NA	NA
Copper	w	860715	1	10.00	10.00	0.00	0.0077	NA
Lead	s	860812	1	18.60	18.60	0.00	NA	NA
Lead	w	860715	1	1.00	1.00	0.00	0.0204	NA
Mercury	s	860812	1	0.10	0.10	0.00	NA	NA
Mercury	w	860715	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860812	1	10.40	10.40	0.00	NA	NA
Nickel	w	860715	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860812	1	2.10	2.10	0.00	0.0200	NA
Zinc	s	860812	1	82.80	82.80	0.00	NA	NA
Zinc	w	860715	1	10.00	10.00	0.00	0.0014	NA
Aldrin	s	830504	1	0.02	0.02	0.00	NA	NA
Aldrin	w	830607	1	0.10	0.10	0.00	0.0953	33

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Goose Creek	<u>Station</u>	LAG00014.44
<u>R. Mile</u>	014.44	<u>Agency</u>	VASWCB
<u>Location</u>	Route 15 Bridge, Loudoun Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-72	4(4)	NA	NA	5.00	5.00	720525	4
Cadmium	w	71-72	5(5)	NA	NA	10.00	10.00	720802	5
Chromium	w	70-74	12(9)	0.00	0.500	10.00	10.00	740530	12
Copper	w	70-74	12(5)	-1.25	0.190	10.00	19.99	710421	2
Lead	w	70-74	9(9)	NA	NA	10.00	10.00	740530	9
Mercury	w	70-74	10(10)	0.00	0.500	0.50	0.50	740530	10
Zinc	w	70-74	12(6)	0.00	0.500	10.00	29.99	710809	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	720525	3	5.00	5.00	0.00	NA	2145
Cadmium	w	720802	4	10.00	10.00	0.00	0.9861	NA
Chromium	w	740530	2	10.00	10.00	0.00	0.0572	NA
Copper	w	740530	2	10.00	10.00	0.00	0.0077	NA
Lead	w	740530	2	10.00	10.00	0.00	0.2043	NA
Mercury	w	740530	2	0.50	0.50	0.00	0.0071	NA
Zinc	w	740530	2	14.99	14.99	7.06	0.0020	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Goose Creek	<u>Station</u>	LAGOO011.23
<u>R. Mile</u>	011.23	<u>Agency</u>	VASWCB
<u>Location</u>	Route 621 Bridge, Loudoun Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	79-84	6(2)	0.00	0.500	2.50	50.00	790830	1
Arsenic	w	75-86	12(9)	-0.17	0.150	1.00	3.00	751007	1
Beryllium	s	83-83	1(0)	NA	NA	0.93	0.93	830504	1
Beryllium	w	83-84	2(2)	NA	NA	1.75	2.50	840508	1
Cadmium	s	79-84	6(6)	0.05	0.270	0.18	0.50	790830	1
Cadmium	w	75-86	12(12)	0.00	0.270	10.00	10.00	810803	4
Chromium	w	75-86	13(10)	0.00	0.100	10.00	10.00	860715	5
Chromium	s	79-84	6(0)	1.33	0.500	21.25	24.40	820401	1
Copper	s	79-84	6(0)	3.07	0.500	15.80	32.40	820401	1
Copper	w	75-86	12(11)	-2.25	0.270	10.00	10.00	850709	8
Lead	s	79-84	6(1)	-0.20	0.500	12.60	36.10	830504	1
Lead	w	75-86	13(6)	-0.13	0.330	2.00	11.99	750520	1
Mercury	s	79-84	5(4)	0.01	0.500	0.20	0.57	820401	1
Mercury	w	75-86	13(11)	0.00	0.270	0.30	0.50	771121	4
Nickel	s	79-84	6(1)	0.70	0.150	8.50	16.10	820401	1
Nickel	w	79-86	7(7)	22.50	0.270	10.00	100.00	860715	1
Selenium	w	83-84	3(2)	NA	NA	1.00	2.50	840508	1
Zinc	s	79-84	6(0)	5.43	0.500	48.55	88.40	820401	1
Zinc	w	75-86	13(9)	0.00	0.270	10.00	20.00	810803	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830504	1
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830607	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	840508	1	2.50	2.50	0.00	NA	NA
Arsenic	w	860715	1	1.00	1.00	0.00	NA	429
Beryllium	s	830504	1	0.93	0.93	0.00	NA	NA
Beryllium	w	840508	2	1.75	1.75	1.06	0.1001	NA
Cadmium	s	840508	1	0.25	0.25	0.00	NA	NA
Cadmium	w	860715	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	860715	1	10.00	10.00	0.00	0.0572	NA
Chromium	s	840508	1	20.90	20.90	0.00	NA	NA
Copper	s	840508	1	24.60	24.60	0.00	NA	NA
Copper	w	860715	1	1.00	1.00	0.00	0.0008	NA
Lead	s	840508	1	12.30	12.30	0.00	NA	NA
Lead	w	860715	1	1.00	1.00	0.00	0.0204	NA
Mercury	s	840508	1	0.22	0.22	0.00	NA	NA
Mercury	w	860715	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	840508	1	9.80	9.80	0.00	NA	NA
Nickel	w	860715	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	840828	2	1.75	1.75	1.06	0.0167	NA
Zinc	s	840508	1	64.00	64.00	0.00	NA	NA
Zinc	w	860715	1	10.00	10.00	0.00	0.0014	NA
Aldrin	s	830504	1	0.02	0.02	0.00	NA	NA
Aldrin	w	830607	1	0.10	0.10	0.00	0.0953	33

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Goose Creek	<u>Station</u>	LAG00002.38
<u>R. Mile</u>	002.38	<u>Agency</u>	VASWCB
<u>Location</u>	Route 7 Bridge, Loudoun Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Data of Maximum	# of MaxVals
Arsenic	f	81-86	12(9)	-1.26	0.500	3.45	10.00	850731	1
Arsenic	s	79-86	7(0)	-0.73	0.500	5.60	40.00	790830	1
Arsenic	w	75-86	12(10)	-0.42	0.210	1.50	3.00	751007	1
Beryllium	s	83-83	1(0)	NA	NA	0.83	0.83	830504	1
Beryllium	w	83-86	3(2)	NA	NA	1.70	1.80	860812	1
Cadmium	f	83-86	9(9)	0.04	0.270	0.10	0.21	860715	2
Cadmium-dwt	f	79-85	10(4)	0.04	0.500	0.35	0.50	850731	1
Cadmium	s	79-86	7(6)	-0.01	0.500	0.18	0.40	790830	1
Cadmium	w	75-86	12(12)	0.00	0.270	10.00	10.00	810803	4
Chromium	w	75-86	12(8)	0.00	0.270	10.00	10.00	810803	4
Chromium	f	83-86	9(1)	-0.03	0.500	0.21	0.64	830727	1
Chromium-dwt	f	79-85	10(0)	-0.08	0.150	1.05	2.60	830727	1
Chromium	s	79-86	7(0)	-0.27	0.500	33.50	48.70	800602	1
Copper	f	83-86	9(0)	-0.03	0.500	0.91	1.30	830727	1
Copper-dwt	f	79-85	10(0)	-0.91	0.270	0.00	5.46	790724	1
Copper	s	79-86	7(0)	-4.03	0.150	35.30	41.40	820401	1
Copper	w	77-86	11(11)	0.00	0.500	10.00	10.00	860715	9
Lead	f	83-86	9(7)	0.37	0.270	1.00	2.10	860715	3
Lead-dwt	f	79-85	10(6)	0.20	0.500	3.50	8.80	830727	1
Lead	s	79-86	7(0)	1.00	0.500	29.20	47.60	830504	1
Lead	w	75-86	12(5)	-2.88	0.360	3.00	33.00	780406	1
Mercury	f	79-86	13(10)	-0.01	0.070	0.09	0.14	830727	1
Mercury	s	79-86	6(5)	-0.01	0.500	0.18	0.36	820401	1
Mercury	w	75-86	12(12)	0.00	0.270	0.30	0.50	771121	3
Nickel	s	79-86	7(0)	-2.17	0.150	15.80	18.10	800602	1
Nickel	w	79-86	7(6)	22.50	0.270	10.00	100.00	860715	1
Selenium	w	83-86	4(2)	NA	NA	1.35	3.60	860812	1
Zinc	f	86-86	3(0)	NA	NA	10.00	16.80	860715	1
Zinc	s	79-86	7(0)	-15.33	0.500	72.50	80.40	810504	1
Zinc	w	75-86	12(7)	0.00	0.330	10.00	50.00	850709	1
Aldrin	f	79-86	13(13)	0.00	0.500	0.10	1.00	810805	3
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830504	1
Aldrin	w	76-83	2(0)	NA	NA	0.06	0.10	830607	1
Alpha BHC	f	79-86	13(13)	0.00	0.500	0.10	1.00	810805	3
Gamma BHC(Lindane)	f	79-86	13(13)	0.00	0.500	0.10	1.00	810805	3
Lindane(organisms)	f	79-85	10(10)	-0.02	0.270	0.01	1.00	810805	3
Chlordane	f	79-86	13(13)	0.06	0.500	0.10	1.00	860715	6
Dieldrin	f	79-86	13(13)	0.00	0.500	0.10	1.00	810805	3
Dieldrin	w	77-77	1(0)	NA	NA	0.10	0.10	770504	1
Endrin	f	79-86	13(13)	0.00	0.500	0.10	1.00	810805	3
Heptachlor Epoxide	f	86-86	3(3)	NA	NA	0.10	0.10	860715	3
Heptachlor	f	86-86	3(3)	NA	NA	0.10	0.10	860715	3
Hexachlorobenzene	f	79-86	13(13)	0.00	0.500	0.10	1.00	810805	3
PCB-1254	f	86-86	3(2)	NA	NA	1.00	1.20	860715	1
PCB1260	f	86-86	3(3)	NA	NA	1.00	1.00	860715	3
PCB's	f	79-86	13(11)	0.06	0.500	0.10	1.20	860715	1
P,P'DDD	f	79-85	10(10)	-0.02	0.270	0.01	1.00	810805	3
P,P'DDE	f	79-85	10(10)	-0.02	0.270	0.01	1.00	810805	3
P,P'DDT	f	79-85	10(10)	-0.02	0.270	0.01	1.00	810805	3
Pentachlorophenol	f	79-85	10(10)	-0.02	0.270	0.01	1.00	810805	3
Toxaphene	f	86-86	3(3)	NA	NA	1.00	1.00	860715	3

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

Station 1AG0002.38 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	860715	6	4.71	4.94	5.19	NA	6553
Arsenic	s	860812	1	7.10	7.10	0.00	NA	NA
Arsenic	w	860715	1	1.00	1.00	0.00	NA	429
Beryllium	s	830504	1	0.83	0.83	0.00	NA	NA
Beryllium	w	860812	1	1.80	1.80	0.00	0.1030	NA
Cadmium	f	860715	6	0.15	0.15	0.06	0.0481	NA
Cadmium-dwt	f	850731	3	0.40	0.40	0.10	NA	NA
Cadmium	s	860812	1	0.18	0.18	0.00	NA	NA
Cadmium	w	860715	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	860715	1	1.00	1.00	0.00	0.0057	NA
Chromium	f	860715	6	0.20	0.25	0.09	NA	NA
Chromium-dwt	f	850731	3	0.90	0.90	0.10	NA	NA
Chromium	s	860812	1	41.00	41.00	0.00	NA	NA
Copper	f	860715	6	0.97	0.89	0.38	0.0024	NA
Copper-dwt	f	850731	3	0.00	0.00	0.00	NA	NA
Copper	s	860812	1	41.00	41.00	0.00	NA	NA
Copper	w	860715	1	10.00	10.00	0.00	0.0077	NA
Lead	f	860715	6	1.50	1.53	0.59	0.0995	NA
Lead-dwt	f	850731	3	4.00	4.00	1.00	NA	NA
Lead	s	860812	1	42.80	42.80	0.00	NA	NA
Lead	w	860715	1	1.00	1.00	0.00	0.0204	NA
Mercury	f	860715	6	0.06	0.06	0.04	0.0026	NA
Mercury	s	860812	1	0.10	0.10	0.00	NA	NA
Mercury	w	860715	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860812	1	16.10	16.10	0.00	NA	NA
Nickel	w	860715	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860812	1	3.60	3.60	0.00	0.0343	NA
Zinc	f	860715	3	10.00	12.13	4.05	0.0044	NA
Zinc	s	860812	1	76.70	76.70	0.00	NA	NA
Zinc	w	860715	1	10.00	10.00	0.00	0.0014	NA
Aldrin	f	860715	6	0.06	0.06	0.05	0.1703	58
Aldrin	s	830504	1	0.02	0.02	0.00	NA	NA
Aldrin	w	830607	1	0.10	0.10	0.00	0.0953	33
Alpha BHC	f	860715	6	0.06	0.06	0.05	NA	56
Gamma BHC(Lindane)	f	860715	6	0.06	0.06	0.05	0.0010	7
Lindane(organisms)	f	850731	3	0.01	0.01	0.00	NA	NA
Chlordane	f	860715	6	0.50	0.50	0.54	0.9383	76
Dieldrin	f	860715	6	0.06	0.06	0.05	NA	153
Dieldrin	w	770504	1	0.10	0.10	0.00	NA	86
Endrin	f	860715	6	0.06	0.06	0.05	NA	NA
Heptachlor Epoxide	f	860715	3	0.10	0.10	0.00	0.3097	24
Heptachlor	f	860715	3	0.10	0.10	0.00	NA	32
Hexachlorobenzene	f	860715	6	0.06	0.06	0.05	NA	9
PCB-1254	f	860715	3	1.00	1.07	0.12	NA	403
PCB1260	f	860715	3	1.00	1.00	0.00	NA	403
PCB's	f	860715	6	0.50	0.54	0.58	NA	204
P,P'DDD	f	850731	3	0.01	0.01	0.00	NA	NA
P,P'DDE	f	850731	3	0.01	0.01	0.00	NA	NA
P,P'DDT	f	850731	3	0.01	0.01	0.00	NA	NA
Pentachlorophenol	f	850731	3	0.01	0.01	0.00	NA	NA
Toxaphene	f	860715	3	1.00	1.00	0.00	NA	102

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	North Fork Broad Run	<u>Station</u>	LANOF002.14
<u>R. Mile</u>	002.14	<u>Agency</u>	VASWCB
<u>Location</u>	Route 29/211 Bridge, Prince William Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-79	6(5)	0.00	0.500	2.00	3.00	750930	1
Cadmium	w	75-79	7(7)	0.00	0.270	10.00	10.00	790419	3
Chromium	w	75-79	7(7)	0.00	0.270	10.00	10.00	790419	3
Copper	w	75-79	7(7)	0.00	0.270	10.00	10.00	790419	3
Lead	w	75-79	7(3)	0.00	0.500	3.00	9.00	781108	1
Mercury	w	75-79	7(7)	-0.10	0.150	0.50	1.70	750501	1
Zinc	w	75-79	7(4)	5.00	0.150	10.00	20.00	790419	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790419	2	2.00	2.00	0.00	NA	858
Cadmium	w	790419	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	790419	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790419	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790419	2	5.50	5.50	4.95	0.1124	NA
Mercury	w	790419	2	0.30	0.30	0.00	0.0043	NA
Zinc	w	790419	2	15.00	15.00	7.07	0.0020	NA

<u>River</u>	Broad Run	<u>Station</u>	LABRU006.65
<u>R. Mile</u>	006.65	<u>Agency</u>	VASWCB
<u>Location</u>	Southern RR Bridge off Route 28, Prince William Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-79	8(6)	-0.50	0.270	2.00	9.00	730731	1
Cadmium	w	73-79	9(8)	0.00	0.270	10.00	16.99	730731	1
Chromium	w	73-79	11(10)	0.00	0.270	10.00	10.00	790419	3
Copper	w	73-79	11(10)	0.00	0.270	10.00	10.00	790419	3
Lead	w	73-79	10(6)	0.50	0.500	7.00	10.99	750930	1
Mercury	w	73-79	11(10)	0.00	0.500	0.50	0.70	730731	1
Zinc	w	73-79	11(6)	5.00	0.060	10.00	459.90	730731	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790419	2	1.50	1.50	0.71	NA	644
Cadmium	w	790419	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	790419	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790419	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790419	2	4.50	4.50	3.54	0.0919	NA
Mercury	w	790419	2	0.30	0.30	0.00	0.0043	NA
Zinc	w	790419	2	15.00	15.00	7.07	0.0020	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Broad Run	<u>Station</u>	1ABRB002.15
<u>R. Mile</u>	002.15	<u>Agency</u>	VASWCB
<u>Location</u>	Route 7 Bridge, Loudoun Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVale
Arsenic	s	80-85	6(0)	1.17	0.150	8.60	12.10	850611	1
Arsenic	w	73-86	13(7)	0.50	0.270	1.00	3.00	751007	1
Beryllium	s	83-83	1(0)	NA	NA	1.59	1.59	830504	1
Beryllium	w	83-84	2(1)	NA	NA	1.60	2.20	840612	1
Cadmium	s	80-85	6(5)	0.10	0.150	0.21	0.60	850611	1
Cadmium	w	73-86	13(12)	1.50	0.270	10.00	10.00	810806	4
Chromium	w	73-86	16(14)	0.00	0.190	10.00	20.00	820510	1
Chromium+6	w	80-80	1(0)	NA	NA	23.90	23.90	800602	1
Chromium	s	80-85	6(0)	-0.64	0.500	34.80	48.00	840612	1
Copper	s	80-85	6(0)	0.30	0.500	12.40	39.10	840612	1
Copper	w	73-86	16(12)	0.00	0.190	10.00	10.00	860715	9
Lead	s	81-85	5(0)	NA	NA	43.00	73.10	830504	1
Lead	w	73-85	15(5)	-1.00	0.500	7.00	24.00	791002	1
Mercury	s	81-85	5(4)	NA	NA	0.14	0.20	810416	1
Mercury	w	73-86	17(16)	0.00	0.500	0.30	0.50	771129	4
Nickel	s	80-85	6(0)	1.30	0.500	21.80	35.00	840612	1
Nickel	w	79-86	7(3)	35.00	0.150	10.00	100.00	860715	1
Selenium	w	83-84	2(1)	NA	NA	2.65	4.30	840612	1
Zinc	s	80-85	6(0)	13.90	0.150	82.55	138.90	850611	1
Zinc	w	73-86	17(11)	0.00	0.370	10.00	49.99	770427	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830504	1
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830607	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	850611	2	10.40	10.40	2.40	NA	NA
Arsenic	w	860715	1	2.00	2.00	0.00	NA	858
Beryllium	s	830504	1	1.59	1.59	0.00	NA	NA
Beryllium	w	840612	1	2.20	2.20	0.00	0.1258	NA
Cadmium	s	850611	2	0.41	0.41	0.27	NA	NA
Cadmium	w	860715	1	4.00	4.00	0.00	0.3945	NA
Chromium	w	860715	1	1.00	1.00	0.00	0.0057	NA
Chromium+6	w	800602	1	23.90	23.90	0.00	0.1367	NA
Chromium	s	850611	2	40.60	40.60	10.47	NA	NA
Copper	s	850611	2	25.90	25.90	18.67	NA	NA
Copper	w	860715	1	10.00	10.00	0.00	0.0077	NA
Lead	s	850611	2	33.60	33.60	13.29	NA	NA
Lead	w	850709	2	2.00	2.00	1.41	0.0409	NA
Mercury	s	850611	2	0.14	0.14	0.04	NA	NA
Mercury	w	860715	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	850611	2	29.60	29.60	7.64	NA	NA
Nickel	w	860715	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	840612	1	4.30	4.30	0.00	0.0410	NA
Zinc	s	850611	2	122.45	122.45	23.26	NA	NA
Zinc	w	860715	1	10.00	10.00	0.00	0.0014	NA
Aldrin	s	830504	1	0.02	0.02	0.00	NA	NA
Aldrin	w	830607	1	0.10	0.10	0.00	0.0953	33

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Sugarland Run	<u>Station</u>	1ASUG008.46
<u>R. Mile</u>	008.46	<u>Agency</u>	VASWCB
<u>Location</u>	Route 606 Bridge, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-73	1(1)	NA	NA	2.80	2.80	730817	1
Cadmium	w	72-73	2(2)	NA	NA	5.50	10.00	720802	1
Chromium	w	72-74	6(6)	NA	NA	10.00	10.00	740530	6
Copper	w	72-74	6(5)	NA	NA	10.00	10.00	740530	6
Lead	w	72-74	5(5)	NA	NA	10.00	10.00	740530	5
Mercury	w	72-74	6(6)	NA	NA	0.50	0.50	740530	6
Zinc	w	72-74	6(4)	NA	NA	10.00	10.00	740530	6

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730817	1	2.80	2.80	0.00	NA	1201
Cadmium	w	730817	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	740530	3	10.00	10.00	0.00	0.0572	NA
Copper	w	740530	3	10.00	10.00	0.00	0.0077	NA
Lead	w	740530	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740530	3	0.50	0.50	0.00	0.0071	NA
Zinc	w	740530	3	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Sugarland Creek	<u>Station</u>	1ASUG004.42
<u>R. Mile</u>	140.71-4.42	<u>Agency</u>	VASWCB
<u>Location</u>	Route 7 Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-85	6(1)	0.12	0.500	5.04	6.50	820412	1
Arsenic	w	75-86	13(9)	-0.50	0.090	2.00	3.00	810806	2
Beryllium	s	83-83	1(0)	NA	NA	1.01	1.01	830504	1
Beryllium	w	83-84	2(2)	NA	NA	1.45	1.90	840612	1
Cadmium	s	80-85	6(6)	0.10	0.150	0.17	0.60	850611	1
Cadmium	w	75-86	13(11)	0.00	0.040	10.00	10.00	810806	5
Chromium	w	77-86	12(9)	0.00	0.270	10.00	10.00	820510	6
Chromium	s	80-85	6(0)	-0.32	0.500	21.85	24.60	830504	1
Copper	s	80-85	6(0)	1.82	0.500	17.35	30.10	850611	1
Copper	w	75-86	13(10)	0.00	0.100	10.00	10.00	860715	10
Lead	s	80-85	6(0)	20.54	0.150	63.20	147.40	850611	1
Lead	w	75-86	13(1)	-2.50	0.170	7.00	45.00	781127	1
Mercury	s	80-85	6(4)	0.01	0.500	0.15	0.20	810416	1
Mercury	w	75-86	11(10)	-0.03	0.150	0.30	0.60	751007	1
Nickel	s	80-85	6(0)	0.94	0.500	13.65	18.40	850611	1
Nickel	w	79-86	7(3)	40.00	0.150	10.00	100.00	860715	1
Selenium	w	83-84	2(2)	NA	NA	1.45	1.90	840612	1
Zinc	s	80-85	6(0)	16.70	0.500	57.15	147.40	850611	1
Zinc	w	75-86	13(8)	0.00	0.380	10.00	169.90	771031	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830504	1
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830607	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	850611	2	5.00	5.00	1.56	NA	NA
Arsenic	w	860715	1	1.00	1.00	0.00	NA	429
Beryllium	s	830504	1	1.01	1.01	0.00	NA	NA
Beryllium	w	840612	1	1.90	1.90	0.00	0.1087	NA
Cadmium	s	850611	2	0.40	0.40	0.29	NA	NA
Cadmium	w	860715	1	5.00	5.00	0.00	0.4931	NA
Chromium	w	860715	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	850611	2	18.05	18.05	5.73	NA	NA
Copper	s	850611	2	23.45	23.45	9.40	NA	NA
Copper	w	860715	1	10.00	10.00	0.00	0.0077	NA
Lead	s	850611	2	107.20	107.20	56.85	NA	NA
Lead	w	860715	1	1.00	1.00	0.00	0.0204	NA
Mercury	s	850611	2	0.14	0.14	0.03	NA	NA
Mercury	w	860715	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	850611	2	15.70	15.70	3.82	NA	NA
Nickel	w	860715	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	840612	1	1.90	1.90	0.00	0.0181	NA
Zinc	s	850611	2	100.70	100.70	66.04	NA	NA
Zinc	w	860715	1	10.00	10.00	0.00	0.0014	NA
Aldrin	s	830504	1	0.02	0.02	0.00	NA	NA
Aldrin	w	830607	1	0.10	0.10	0.00	0.0953	33

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Horsepen Run	<u>Station</u>	1AHOR003.87
<u>R. Mile</u>	003.87	<u>Agency</u>	VASWCB
<u>Location</u>	Dulles Airport Access Road, Loudoun Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-86	7(0)	1.75	0.150	8.30	12.00	850611	1
Arsenic	w	77-86	10(6)	0.00	0.500	2.00	2.00	860715	6
Beryllium	s	83-83	2(1)	NA	NA	1.25	1.49	830504	1
Beryllium	w	84-86	2(0)	NA	NA	2.00	2.10	860812	1
Cadmium	s	80-86	7(7)	0.09	0.150	0.20	0.60	850611	1
Cadmium	w	77-86	10(8)	1.00	0.270	6.50	10.00	810806	3
Chromium	w	75-86	11(7)	0.00	0.500	10.00	20.00	820510	1
Chromium	s	80-86	7(0)	-1.50	0.150	27.20	33.20	830504	1
Copper	s	80-86	7(0)	1.54	0.150	21.60	26.90	850611	1
Copper	w	75-86	11(8)	0.00	0.500	10.00	10.00	860715	8
Lead	s	80-86	7(0)	0.22	0.500	27.10	96.20	860812	1
Lead	w	75-86	11(2)	-0.50	0.270	2.00	44.99	770318	1
Mercury	s	81-86	6(5)	NA	NA	0.13	0.20	810416	1
Mercury	w	75-86	10(8)	0.00	0.500	0.30	2.40	770318	1
Nickel	s	80-86	7(0)	1.52	0.500	18.10	24.90	830504	1
Nickel	w	79-86	7(2)	40.00	0.270	20.00	100.00	860715	2
Selenium	w	83-86	3(1)	NA	NA	3.90	4.20	860812	1
Zinc	s	80-86	7(0)	16.12	0.150	79.00	155.50	850611	1
Zinc	w	75-86	11(4)	15.00	0.270	10.00	89.99	770318	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830504	1
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830607	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860812	1	10.50	10.50	0.00	NA	NA
Arsenic	w	860715	1	2.00	2.00	0.00	NA	858
Beryllium	s	830607	2	1.25	1.25	0.35	NA	NA
Beryllium	w	860812	1	2.10	2.10	0.00	0.1201	NA
Cadmium	s	860812	1	0.21	0.21	0.00	NA	NA
Cadmium	w	860715	1	3.00	3.00	0.00	0.2959	NA
Chromium	w	860715	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860812	1	27.20	27.20	0.00	NA	NA
Copper	s	860812	1	23.60	23.60	0.00	NA	NA
Copper	w	860715	1	10.00	10.00	0.00	0.0077	NA
Lead	s	860812	1	96.20	96.20	0.00	NA	NA
Lead	w	860715	1	1.00	1.00	0.00	0.0204	NA
Mercury	s	860812	1	0.10	0.10	0.00	NA	NA
Mercury	w	860715	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860812	1	16.70	16.70	0.00	NA	NA
Nickel	w	860715	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860812	1	4.20	4.20	0.00	0.0400	NA
Zinc	s	860812	1	71.10	71.10	0.00	NA	NA
Zinc	w	860715	1	40.00	40.00	0.00	0.0054	NA
Aldrin	s	830504	1	0.02	0.02	0.00	NA	NA
Aldrin	w	830607	1	0.10	0.10	0.00	0.0953	33

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Horsepen Run	<u>Station</u>	1AHOR002.28
<u>R. Mile</u>	002.28	<u>Agency</u>	VASWCB
<u>Location</u>	Route 775 Bridge, Loudoun Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	73-74	2(2)	NA	NA	10.00	10.00	740530	2
Copper	w	73-74	2(2)	NA	NA	10.00	10.00	740530	2
Lead	w	73-74	2(2)	NA	NA	10.00	10.00	740530	2
Mercury	w	73-74	2(1)	NA	NA	0.50	0.50	740530	2
Zinc	w	73-74	2(1)	NA	NA	14.99	19.99	740530	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	740530	2	10.00	10.00	0.00	0.0572	NA
Copper	w	740530	2	10.00	10.00	0.00	0.0077	NA
Lead	w	740530	2	10.00	10.00	0.00	0.2043	NA
Mercury	w	740530	2	0.50	0.50	0.00	0.0071	NA
Zinc	w	740530	2	14.99	14.99	7.06	0.0020	NA

<u>River</u>	Potomac River	<u>Station</u>	FCWA.pot
<u>R. Mile</u>		<u>Agency</u>	FCWA
<u>Location</u>	FCWA intake, Lowes Island, VA side		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	84-87	30(30)	0.00	0.50	1.00	1.00	871228	30
Barium	w	84-87	30(22)	-37.75	0.01	2.00	147.00	850120	1
Cadmium	w	84-87	30(26)	0.00	0.36	0.10	4.00	861015	1
Chromium	w	84-87	32(30)	0.00	0.23	1.00	45.00	840711	1
Copper	w	84-87	150(114)	0.00	0.50	20.00	640.00	870504	1
Lead	w	84-87	31(28)	0.00	0.10	1.00	10.00	850120	1
Mercury	w	84-87	30(28)	0.00	0.50	0.20	5.00	851230	1
Zinc	w	84-87	150(95)	0.00	0.30	5.00	130.00	850612	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871228	11	1.00	1.00	0.00	NA	429
Barium	w	871228	12	2.00	2.00	0.00	0.0011	NA
Cadmium	w	871228	12	0.10	0.26	0.55	0.0099	NA
Chromium	w	871228	12	1.00	1.00	0.00	0.0057	NA
Copper	w	871228	53	20.00	36.70	86.97	0.0155	NA
Lead	w	871228	12	1.00	1.58	2.02	0.0204	NA
Mercury	w	871228	11	0.20	0.20	0.00	0.0029	NA
Zinc	w	871228	53	5.00	12.51	15.11	0.0007	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Unnamed Tributary	<u>Station</u>	UHM0001
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Mouth of 1st. trib. to URG from W. U/S Schaefer Rd.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	76-79	12(11)	0.01	0.270	0.05	0.30	760203	1
Copper	w	76-79	12(11)	0.00	0.270	0.05	0.06	770330	1
Lead	w	76-79	11(11)	-0.15	0.270	0.30	0.50	780731	8
Mercury	w	76-76	1(0)	NA	NA	0.00	0.00	760203	1
Nickel	w	76-76	1(1)	NA	NA	0.30	0.30	760203	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	790305	5	0.05	0.05	0.00	0.0049	NA
Copper	w	790305	5	0.05	0.05	0.00	NA	NA
Lead	w	790305	5	0.50	0.44	0.13	0.0102	NA
Mercury	w	760203	1	0.00	0.00	0.00	NA	NA
Nickel	w	760203	1	0.30	0.30	0.00	0.0009	NA

<u>River</u>	Unnamed Tributary	<u>Station</u>	UHM0000
<u>R. Mile</u>	.00	<u>Agency</u>	MDOEP
<u>Location</u>	Mouth of 1st trib. entering URG from E. above Schaeffer Rd.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	75-78	3(3)	NA	NA	0.03	0.05	780515	1
Copper	w	75-78	3(3)	NA	NA	0.05	0.05	780515	3
Lead	w	75-78	3(3)	NA	NA	0.10	0.50	780515	1
Mercury	w	75-76	2(2)	NA	NA	0.00	0.00	760203	2
Nickel	w	75-76	2(2)	NA	NA	0.18	0.30	760203	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	780515	1	0.05	0.05	0.00	0.0049	NA
Copper	w	780515	1	0.05	0.05	0.00	NA	NA
Lead	w	780515	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	760203	1	0.00	0.00	0.00	NA	NA
Nickel	w	760203	1	0.30	0.30	0.00	0.0009	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PLATEAU

<u>River</u>	Unnamed Tributary	<u>Station</u> URG0017
<u>R. Mile</u>	1.70	<u>Agency</u> MDOEP
<u>Location</u>	Just above first trib. above Schaeffer Road.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	75-79	17(17)	0.01	0.100	0.05	0.05	790802	11
Copper	w	75-79	17(17)	0.00	0.500	0.05	0.05	790802	17
Lead	w	75-79	17(17)	-0.08	0.330	0.20	0.50	780705	7
Mercury	w	75-76	2(2)	NA	NA	0.00	0.00	760203	2
Nickel	w	75-76	2(2)	NA	NA	0.18	0.30	760203	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	790802	5	0.05	0.05	0.00	0.0049	NA
Copper	w	790802	5	0.05	0.05	0.00	NA	NA
Lead	w	790802	5	0.20	0.20	0.00	0.0041	NA
Mercury	w	760203	1	0.00	0.00	0.00	NA	NA
Nickel	w	760203	1	0.30	0.30	0.00	0.0009	NA

<u>River</u>	Unnamed Tributary	<u>Station</u> UDJ0000
<u>R. Mile</u>	.00	<u>Agency</u> MDOEP
<u>Location</u>	Just u/s 1st. trib. u/s Schaeffer Rd. (settling basin).	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	76-79	11(11)	0.01	0.270	0.05	0.05	790305	8
Copper	w	76-79	11(11)	0.00	0.500	0.05	0.05	790305	11
Lead	w	76-79	11(11)	-0.15	0.270	0.50	0.50	780731	8
Mercury	w	76-76	1(1)	NA	NA	0.00	0.00	760203	1
Nickel	w	76-76	1(1)	NA	NA	0.30	0.30	760203	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	790305	7	0.05	0.05	0.00	0.0049	NA
Copper	w	790305	7	0.05	0.05	0.00	NA	NA
Lead	w	790305	7	0.50	0.46	0.11	0.0102	NA
Mercury	w	760203	1	0.00	0.00	0.00	NA	NA
Nickel	w	760203	1	0.30	0.30	0.00	0.0009	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Unnamed Tributary	<u>Station</u>	UHL0000
<u>R. Mile</u>	.00	<u>Agency</u>	MDOEP
<u>Location</u>	Mouth of 1st. trib. entering URG from E. above Schaeffer Rd.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-79	28(28)	0.00	0.050	0.05	0.05	790802	22
Chromium	w	74-77	2(2)	NA	NA	0.08	0.10	771018	1
Copper	w	74-79	28(27)	0.00	0.500	0.05	0.20	771018	1
Lead	w	74-79	28(28)	0.00	0.310	0.50	0.50	780905	17
Mercury	w	74-76	3(2)	NA	NA	0.00	0.00	760203	3
Nickel	w	74-76	3(2)	NA	NA	0.05	0.30	760203	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	790802	6	0.05	0.05	0.00	0.0049	NA
Chromium	w	771018	1	0.10	0.10	0.00	0.0006	NA
Copper	w	790802	6	0.05	0.05	0.00	NA	NA
Lead	w	790802	6	0.20	0.25	0.12	0.0041	NA
Mercury	w	760203	1	0.00	0.00	0.00	NA	NA
Nickel	w	760203	1	0.30	0.30	0.00	0.0009	NA

<u>River</u>	Unnamed Tributary	<u>Station</u>	URG0015
<u>R. Mile</u>	1.50	<u>Agency</u>	MDOEP
<u>Location</u>	0.1 mi. d/s Schaeffer Rd., 1.4 mi.W. of Rt. 118 Brownstown		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-79	29(29)	0.00	0.020	0.05	0.05	790802	22
Chromium	w	74-74	1(1)	NA	NA	0.05	0.05	741203	1
Copper	w	74-79	29(28)	0.00	0.500	0.05	0.20	771018	1
Lead	w	74-79	29(29)	0.00	0.500	0.50	0.50	780905	18
Mercury	w	74-76	3(3)	NA	NA	0.00	0.00	760203	3
Nickel	w	74-76	3(3)	NA	NA	0.05	0.30	760203	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	790802	6	0.05	0.05	0.00	0.0049	NA
Chromium	w	741203	1	0.05	0.05	0.00	0.0003	NA
Copper	w	790802	6	0.05	0.05	0.00	NA	NA
Lead	w	790802	6	0.20	0.25	0.12	0.0041	NA
Mercury	w	760203	1	0.00	0.00	0.00	NA	NA
Nickel	w	760203	1	0.30	0.30	0.00	0.0009	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Unnamed Tributary	<u>Station</u>	UHK0002
<u>R. Mile</u>	.20	<u>Agency</u>	MDOEP
<u>Location</u>	Schaeffer Rd.X-ing,1st.drainage W.of trib.URG (Settling basin)		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	76-79	23(23)	0.01	0.040	0.05	0.50	771018	1
Chromium	w	77-77	1(1)	NA	NA	0.05	0.05	771018	1
Copper	w	76-79	23(22)	0.00	0.500	0.05	0.10	771018	1
Lead	w	76-79	23(22)	0.00	0.500	0.50	1.00	771018	1
Mercury	w	76-76	1(1)	NA	NA	0.00	0.00	760203	1
Nickel	w	76-76	1(1)	NA	NA	0.30	0.30	760203	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	790305	9	0.05	0.05	0.00	0.0049	NA
Chromium	w	771018	1	0.05	0.05	0.00	0.0003	NA
Copper	w	790305	9	0.05	0.05	0.00	NA	NA
Lead	w	790305	9	0.50	0.43	0.13	0.0102	NA
Mercury	w	760203	1	0.00	0.00	0.00	NA	NA
Nickel	w	760203	1	0.30	0.30	0.00	0.0009	NA

<u>River</u>	Unnamed Tributary	<u>Station</u>	UHK0001
<u>R. Mile</u>	.20	<u>Agency</u>	MDOEP
<u>Location</u>	Schaeffer Rd. X-ing, first drainage W. of Trib. URG		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-79	8(8)	0.01	0.270	0.04	0.05	790305	4
Chromium	w	74-74	1(1)	NA	NA	0.05	0.05	741203	1
Copper	w	74-79	8(8)	0.00	0.500	0.05	0.05	790305	8
Lead	w	74-79	8(8)	-0.15	0.270	0.35	0.50	780515	4
Mercury	w	74-76	3(3)	NA	NA	0.00	0.00	760203	3
Nickel	w	74-76	3(3)	NA	NA	0.05	0.30	760203	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	790305	3	0.05	0.05	0.00	0.0049	NA
Chromium	w	741203	1	0.05	0.05	0.00	0.0003	NA
Copper	w	790305	3	0.05	0.05	0.00	NA	NA
Lead	w	790305	3	0.50	0.40	0.17	0.0102	NA
Mercury	w	760203	1	0.00	0.00	0.00	NA	NA
Nickel	w	760203	1	0.30	0.30	0.00	0.0009	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Unnamed Tributary	<u>Station</u>	UHK0000
<u>R. Mile</u>	.00	<u>Agency</u>	MDOEP
<u>Location</u>	Mouth 1st.trib.entering URG from NW below Schaeffer Rd.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	75-79	22(22)	0.00	0.100	0.05	0.05	790802	16
Copper	w	75-79	22(22)	0.00	0.500	0.05	0.05	790802	22
Lead	w	75-79	22(22)	-0.15	0.140	0.50	0.50	780731	12
Mercury	w	75-76	2(2)	NA	NA	0.00	0.00	760203	2
Nickel	w	75-76	2(2)	NA	NA	0.18	0.30	760203	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	790802	5	0.05	0.05	0.00	0.0049	NA
Copper	w	790802	5	0.05	0.05	0.00	NA	NA
Lead	w	790802	5	0.20	0.20	0.00	0.0041	NA
Mercury	w	760203	1	0.00	0.00	0.00	NA	NA
Nickel	w	760203	1	0.30	0.30	0.00	0.0009	NA

<u>River</u>	Seneca Creek	<u>Station</u>	SEN0056
<u>R. Mile</u>	5.60	<u>Agency</u>	MDOEP
<u>Location</u>	Rt. 107 X-ing at Dawsonville		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-75	2(2)	NA	NA	0.03	0.03	750113	2
Chromium	w	74-74	1(1)	NA	NA	0.05	0.05	741203	1
Copper	w	74-75	2(2)	NA	NA	0.05	0.05	750113	2
Lead	w	74-75	2(2)	NA	NA	0.10	0.10	750113	2
Mercury	w	74-75	2(2)	NA	NA	0.00	0.00	750113	2
Nickel	w	74-75	2(2)	NA	NA	0.05	0.05	750113	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	750113	2	0.03	0.03	0.00	0.0030	NA
Chromium	w	741203	1	0.05	0.05	0.00	0.0003	NA
Copper	w	750113	2	0.05	0.05	0.00	NA	NA
Lead	w	750113	2	0.10	0.10	0.00	0.0020	NA
Mercury	w	750113	2	0.00	0.00	0.00	NA	NA
Nickel	w	750113	2	0.05	0.05	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Potomac River	<u>Station</u>	POT1342
<u>R. Mile</u>	134.20	<u>Agency</u>	MDOEP
<u>Location</u>	End of Violets Lock Road		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	78-78	6(6)	NA	NA	0.05	0.10	781020	1
Cadmium	f	78-78	6(0)	NA	NA	0.41	0.53	781020	1
Chromium	w	78-78	6(6)	NA	NA	0.10	0.10	781020	6
Copper	f	78-78	6(0)	NA	NA	0.75	1.20	781020	1
Lead	f	78-78	6(0)	NA	NA	2.10	4.30	781020	1
Mercury	f	78-78	6(0)	NA	NA	0.17	0.28	781020	1
Zinc	f	78-78	6(0)	NA	NA	14.50	23.00	781020	1
Alpha BHC	f	78-78	6(6)	NA	NA	0.00	0.00	781020	6
Gamma BHC(Lindane)	f	78-78	6(6)	NA	NA	0.00	0.00	781020	6
Chlordane	f	78-78	6(1)	NA	NA	0.03	0.10	781020	1
Dieldrin	f	78-78	6(3)	NA	NA	0.00	0.02	781020	1
Endrin	f	78-78	6(6)	NA	NA	0.00	0.00	781020	6
Heptachlor Epoxide	f	78-78	6(6)	NA	NA	0.00	0.00	781020	6
PCB's	f	78-78	6(0)	NA	NA	0.20	0.51	781020	1
P,P'DDD	f	78-78	6(0)	NA	NA	0.03	0.06	781020	1
P,P'DDE	f	78-78	6(0)	NA	NA	0.06	0.16	781020	1
P,P'DDT	f	78-78	6(3)	NA	NA	0.00	0.02	781020	2
Toxaphene	f	78-78	6(6)	NA	NA	0.01	0.01	781020	6

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	781020	6	0.05	0.06	0.02	NA	70
Cadmium	f	781020	6	0.41	0.41	0.10	0.1297	NA
Chromium	w	781020	6	0.10	0.10	0.00	0.0006	NA
Copper	f	781020	6	0.75	0.78	0.27	0.0019	NA
Lead	f	781020	6	2.10	2.38	1.03	0.1393	NA
Mercury	f	781020	6	0.17	0.16	0.09	0.0079	NA
Zinc	f	781020	6	14.50	15.10	5.06	0.0064	NA
Alpha BHC	f	781020	6	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	781020	6	0.00	0.00	0.00	NA	NA
Chlordane	f	781020	6	0.03	0.04	0.04	0.0557	4
Dieldrin	f	781020	6	0.00	0.01	0.01	NA	10
Endrin	f	781020	6	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	781020	6	0.00	0.00	0.00	0.0015	NA
PCB's	f	781020	6	0.20	0.22	0.15	NA	83
P,P'DDD	f	781020	6	0.03	0.03	0.02	NA	NA
P,P'DDE	f	781020	6	0.06	0.07	0.05	NA	NA
P,P'DDT	f	781020	6	0.00	0.01	0.01	NA	NA
Toxaphene	f	781020	6	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Potomac River	<u>Station</u>	POTOMAC.LAB
<u>R. Mile</u>		<u>Agency</u>	WSSC
<u>Location</u>	WSSC WTP near Watkins Island (MD side)		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	82-87	67(54)	0.00	0.11	1.00	4.00	870201	1
Barium	w	82-87	71(0)	-3.00	0.01	42.00	358.00	820701	1
Cadmium	w	82-87	71(20)	0.00	0.24	1.00	6.00	861001	1
Chromium	w	82-87	71(6)	-0.50	0.00	2.00	18.00	830401	1
Copper	w	82-87	71(0)	-5.00	0.00	26.00	420.00	820201	1
Lead	w	82-87	71(16)	-2.50	0.00	10.00	105.00	840501	1
Mercury	w	82-87	60(27)	0.00	0.40	0.20	0.50	840901	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871101	11	1.00	1.36	0.92	NA	429
Barium	w	871101	12	41.00	51.00	25.74	0.0230	NA
Cadmium	w	871101	12	1.00	1.17	0.39	0.0986	NA
Chromium	w	871101	12	1.00	1.42	0.51	0.0057	NA
Copper	w	871101	12	17.50	20.50	9.62	0.0135	NA
Lead	w	871101	12	5.00	7.08	3.34	0.1021	NA
Mercury	w	871001	12	0.2	0.2	0.06	0.0028	NA

<u>River</u>	Potomac River	<u>Station</u>	WAD.gf
<u>R. Mile</u>		<u>Agency</u>	WAD
<u>Location</u>	Water supply intake at Great Falls, MD		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	81-86	71(4)	0.00	0.00	1.00	24.00	861001	1
Barium	w	81-86	71(0)	-0.50	0.37	58.00	272.00	810201	1
Cadmium	w	81-86	71(30)	0.00	0.05	0.10	3.00	810301	1
Chromium	w	81-86	70(2)	-0.58	0.00	3.00	37.00	810201	1
Copper	w	81-86	65(0)	-1.50	0.00	6.00	41.00	811201	1
Lead	w	81-86	70(1)	-0.16	0.02	1.55	12.00	810201	1
Mercury	w	81-86	71(29)	0.00	0.01	0.10	2.20	820901	1
Nickel	w	81-86	64(0)	0.00	0.05	5.00	11.00	850201	1
Zinc	w	81-86	59(0)	-0.50	0.09	5.00	248.00	830801	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	861201	12	1.00	3.00	6.62	NA	429
Barium	w	861201	12	56.00	61.33	15.76	0.0314	NA
Cadmium	w	861201	12	0.10	0.13	0.07	0.0099	NA
Chromium	w	861201	12	1.00	1.42	1.16	0.0057	NA
Copper	w	861201	12	2.00	2.58	1.08	0.0015	NA
Lead	w	861201	12	0.65	1.54	2.56	0.0133	NA
Mercury	w	861201	12	0.10	0.12	0.06	0.0014	NA
Nickel	w	861201	12	5.00	5.00	0.00	0.0143	NA
Zinc	w	861201	12	4.50	4.83	2.82	0.0006	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Difficult Run	<u>Station</u> 1ADIF004.02
<u>R. Mile</u>	004.02	<u>Agency</u> VASWCB
<u>Location</u>	Route 7 Bridge, Fairfax Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-79	7(6)	-0.42	0.210	2.00	4.00	771021	1
Cadmium	w	72-79	8(8)	0.00	0.100	10.00	10.00	790411	3
Chromium	w	72-79	12(10)	0.00	0.100	10.00	10.00	790411	3
Copper	w	72-79	11(7)	0.00	0.270	10.00	19.99	740521	1
Lead	w	72-79	11(2)	-0.25	0.500	10.00	10.00	780419	1
Mercury	w	72-78	11(11)	-0.07	0.270	0.50	0.50	771021	3
Zinc	w	72-79	12(4)	0.00	0.100	10.00	29.99	730802	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Data	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790411	3	2.00	1.67	0.58	NA	858
Cadmium	w	790411	3	10.00	10.00	0.00	0.9862	NA
Chromium	w	790411	3	10.00	10.00	0.00	0.0572	NA
Copper	w	790411	3	10.00	10.00	0.00	0.0077	NA
Lead	w	790411	3	8.00	7.67	2.52	0.1634	NA
Mercury	w	781025	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	790411	3	20.00	16.67	5.77	0.0027	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Difficult Run	<u>Station</u>	1ADIF000.86
<u>R. Mile</u>	000.86	<u>Agency</u>	VASWCB
<u>Location</u>	Route 193 Bridge, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-82	3(0)	NA	NA	4.90	6.40	820419	1
Arsenic	w	73-86	9(7)	NA	NA	1.00	3.00	810908	2
Beryllium	w	83-83	1(1)	NA	NA	1.00	1.00	830606	1
Cadmium	s	80-82	3(3)	NA	NA	0.18	0.30	820419	1
Cadmium	w	72-86	11(9)	0.00	0.270	10.00	10.00	810908	5
Chromium	w	72-86	15(13)	0.00	0.270	10.00	10.00	810908	5
Chromium	s	80-82	3(0)	NA	NA	22.40	33.80	820419	1
Copper	s	80-82	3(0)	NA	NA	31.10	39.30	820419	1
Copper	w	72-86	14(13)	0.00	0.270	10.00	10.00	860714	7
Lead	s	80-82	3(0)	NA	NA	29.60	93.40	820419	1
Lead	w	72-86	14(4)	-3.49	0.150	10.00	21.00	810908	1
Mercury	s	80-82	3(2)	NA	NA	0.18	0.20	810414	1
Mercury	w	72-86	13(13)	NA	NA	0.50	0.50	770404	2
Nickel	s	80-82	3(0)	NA	NA	19.70	24.80	820419	1
Nickel	w	79-86	4(2)	NA	NA	20.00	100.00	860714	1
Selenium	w	83-83	1(0)	NA	NA	1.00	1.00	830606	1
Zinc	s	80-82	3(0)	NA	NA	77.80	113.00	820419	1
Zinc	w	72-86	15(7)	0.00	0.500	10.00	30.00	810908	2
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830606	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Data	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	820419	1	6.40	6.40	0.00	NA	NA
Arsenic	w	860714	1	1.00	1.00	0.00	NA	429
Beryllium	w	830606	1	1.00	1.00	0.00	0.0572	NA
Cadmium	s	820419	1	0.30	0.30	0.00	NA	NA
Cadmium	w	860714	1	3.00	3.00	0.00	0.2959	NA
Chromium	w	860714	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	820419	1	33.80	33.80	0.00	NA	NA
Copper	s	820419	1	39.30	39.30	0.00	NA	NA
Copper	w	860714	1	10.00	10.00	0.00	0.0077	NA
Lead	s	820419	1	93.40	93.40	0.00	NA	NA
Lead	w	860714	1	1.00	1.00	0.00	0.0204	NA
Mercury	s	820419	1	0.18	0.18	0.00	NA	NA
Mercury	w	860714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	820419	1	24.80	24.80	0.00	NA	NA
Nickel	w	860714	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	830606	1	1.00	1.00	0.00	0.0095	NA
Zinc	s	820419	1	113.00	113.00	0.00	NA	NA
Zinc	w	860714	1	10.00	10.00	0.00	0.0014	NA
Aldrin	w	830606	1	0.10	0.10	0.00	0.0953	33

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
V. POTOMAC PIEDMONT

<u>River</u>	Difficult Run	<u>Station</u>	01646000
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Near Great Falls, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	s	77-77	1(0)	NA	NA	10.00	10.00	770831	1
Chromium	s	77-77	1(0)	NA	NA	20.00	20.00	770831	1
Copper	s	77-77	1(1)	NA	NA	10.00	10.00	770831	1
Lead	s	77-77	1(1)	NA	NA	10.00	10.00	770831	1
Zinc	s	77-77	1(0)	NA	NA	50.00	50.00	770831	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	s	770831	1	10.00	10.00	0.00	NA	NA
Chromium	s	770831	1	20.00	20.00	0.00	NA	NA
Copper	s	770831	1	10.00	10.00	0.00	NA	NA
Lead	s	770831	1	10.00	10.00	0.00	NA	NA
Zinc	s	770831	1	50.00	50.00	0.00	NA	NA

<u>River</u>	Potomac River	<u>Station</u>	01646500
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Nr Washington D.C. L. Falls Pump Stat. Montgomery Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chlordane-dwt	s	80-80	1(0)	NA	NA	8.00	8.00	800917	1

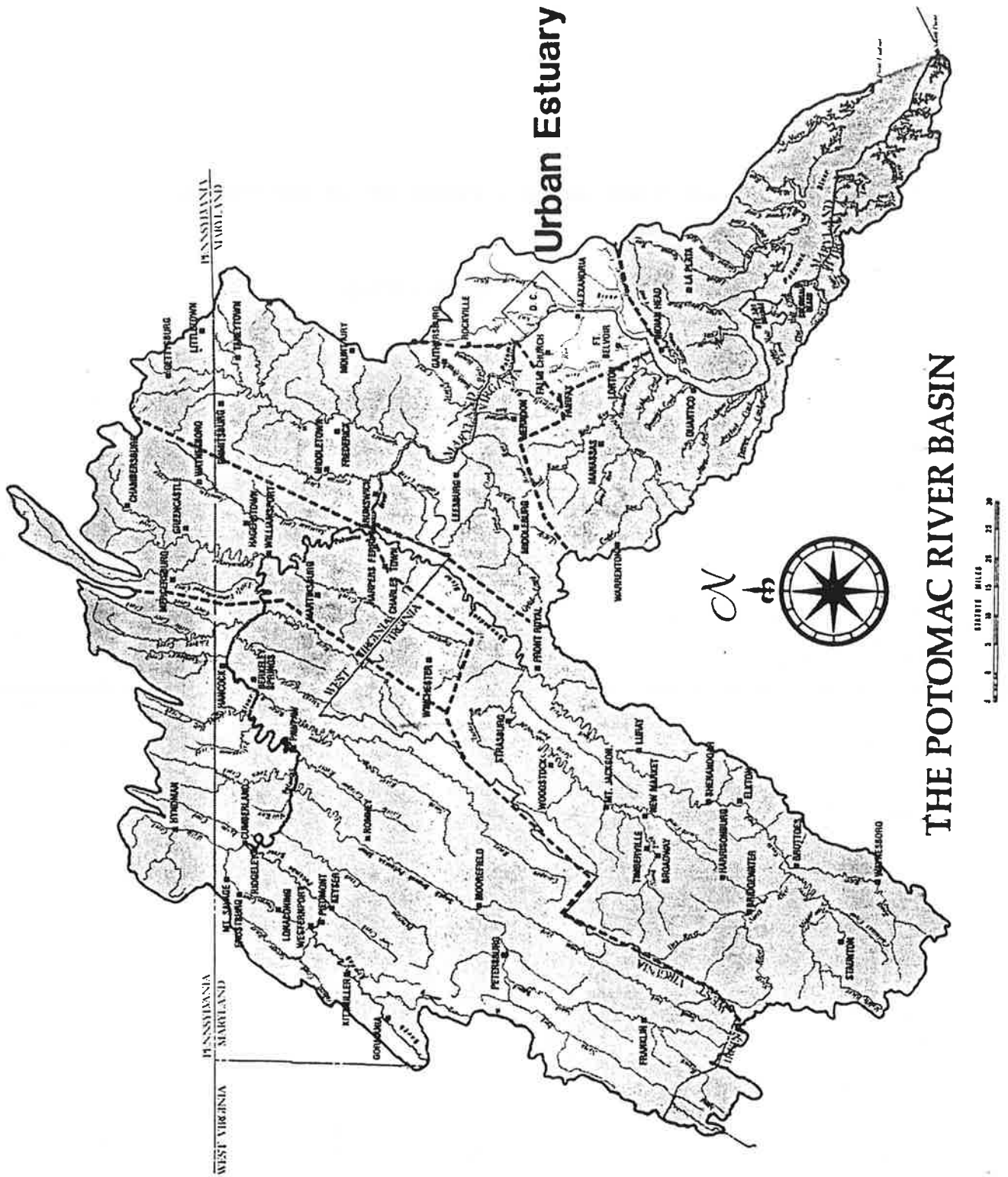
STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chlordane-dwt	s	800917	1	8.00	8.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

VI. POTOMAC URBAN ESTUARY

Map 6.



STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

VI. POTOMAC URBAN ESTUARY

This subdivision includes the portion of the basin contributing to 43 miles (69 km) of the main stem Potomac River from Little Falls, where the river reaches sea level, to Indian Head, Maryland. It includes all of the District of Columbia. In this tidal portion of the Potomac River, urban runoff is currently the major degrading factor in water quality. In addition, combined sewer overflows (CSO's) within the District of Columbia continue to cause water quality problems after rains; however, installation of the swirl concentrator in the Anacostia watershed at the Robert F. Kennedy stadium should reduce pollutant loads in storm runoff in the future. The tidal Potomac River receives more than 400 mgd of treated wastewater, with about 75 percent coming from the Blue Plains wastewater treatment plant (WWTP) just upstream of the Woodrow Wilson Bridge. It is uncertain whether public wastewater treatment facilities contribute significant loadings of toxics to the river. The degree of toxic compound removal from wastewater during treatment probably varies depending on the characteristics of the wastewater source, properties of the chemicals in question and type of treatment.

Although toxic chemical data are available for 122 stations in the urban estuary sub-basin, metals in the water column were monitored within the last 5 year period at approximately 40 stations and in sediments at 6 stations. Differences in average concentrations of toxic parameters for data provided by different agencies exist. For example, at District of Columbia monitoring stations within the 1980 - 1981 period of record, Copper concentrations were consistently 50 ug/l or greater, in contrast to later observations at other D.C. stations. Metals concentrations measured by Maryland were 1 to 2 orders of magnitude lower than those observed by the District of Columbia in the same streams.

Potomac River to Confluence with the Anacostia River

Stream reaches in which toxics were assessed in this portion of the Potomac Urban Estuary include:

- Potomac Main Stem
- Pimmit Run
- Rock Creek

Of 24 total toxics monitoring stations, (see tables pp. VI-11 to VI-22), 13 have observations within the last 5 years, and 2

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

stations have sufficient data for Kendall tau trend analysis. In the upper reaches of the Potomac Urban Estuary from Little Falls to the confluence of the Potomac and Anacostia Rivers, toxics monitoring data indicate elevated levels of Cadmium, Copper, Lead and Zinc in the water column. In many cases, the metals concentrations exceed the District of Columbia's standards for the protection of aquatic life, and they approach levels that, in drinking water, are hazardous to human health. However, the median concentrations for the last 12 months of record are based upon two observations at detection limit in 1986 and 1987. Since the reported detection limits in 1986 are rather high (50 ug/l for Lead, for example), actual concentrations of toxic parameters may be considerably lower than those reported.

There was a large downward trend in Copper at the station near Fletcher's Boat House (PMS01) from 1980 to 1987. In Pimmit Run, a Virginia tributary, Arsenic and Mercury concentrations decreased significantly over a 6 year period, while Cadmium and Copper have shown significant but very small upward trends.

Rock Creek, a major 25 mile (40 km) long tributary in the Washington area, drains urbanized Montgomery County, Maryland, and the District of Columbia. In Rockhold Creek, a tributary of Rock Creek in Montgomery County, Chlordane and PCB levels in fish samples approached levels that are hazardous for human health in 1984. More recent monitoring data of fish in Rock Creek or its tributaries is not available, however.

Anacostia River

The Anacostia River is 28 miles (45 km) long and drains parts of Maryland and the District of Columbia. The Montgomery County portion includes Northwest Branch (the only stream that is stocked with trout inside the Capital Beltway), Sligo Creek, and the upper portion of Paint Branch. Paint Branch is fed by clean, cold, rapidly flowing springs, and it is one of the few streams with a self-sustaining brown trout population in Montgomery County. Prince Georges County tributaries include Northeast Branch, Indian Creek, Little Paint Branch, and Beaverdam Creek.

Recently, Maryland, in compliance with the Clean Water Act, listed Indian Creek as a receiving stream for potentially harmful levels of toxic parameters in industrial wastewater discharge (Washington Post, July 8, 1988). In the tidal Anacostia, water quality is affected by urban stormwater runoff,

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

combined sewer overflows, and erosion at construction sites. The Anacostia River Restoration Plan, recently negotiated between the District of Columbia and Maryland, should focus attention on this neglected river and result in water quality improvements.

Of 42 monitoring stations at which toxics data were available (see tables pp. VI-22 to VI-41) 15 have been sampled within the last 5 years. Trend analysis was performed on data at 10 stations, although only 1 trend analysis involved recently collected data. At 2 monitoring stations in the tidal Anacostia, large downward trends in Copper concentrations occurred. In the Northwest Branch, significant but smaller positive trends in Cadmium, Lead, Nickel, and Mercury, were detected for the 1976-1979 period.

The data also indicated elevated concentrations of Cadmium, Copper, Lead, and Zinc in the Anacostia River. However, except for Zinc, the observations for the most recent 12 months of record are at reported detection limits. At 10 Anacostia River stations, median Zinc concentrations for the most recent reporting year (usually 1987) vary from 50 to 120 ug/l, while at 6 points along the Anacostia, they lie within the 12 to 30 ug/l range. At all Anacostia River stations, the median Zinc concentration for the entire period of record is 50 ug/l or greater. The data indicate that at many points the Zinc concentration in the water column exceeds or has exceeded the District of Columbia aquatic life criteria and may have resulted in harmful conditions for fish and other aquatic biota.

Potomac River from Anacostia Confluence to Indian Head

Toxic parameters were assessed in the following stream reaches of the lower part of this subdivision:

- Potomac River
- Four Mile Run
- Hunting Creek
- Piscataway Creek
- Little Hunting Creek
- Dogue Creek
- Scott Run
- Accotink Creek
- Pohick Creek
- Gunston Cove

Toxic parameters have been measured at 15 stations (most of them recently) in the Potomac main stem from the Anacostia confluence

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to Hallowing Point, Virginia. However, the sampling frequency was high enough at only 2 of those stations for trend analysis to be performed. Comprehensive analysis of fish tissue in 1986 at Indian Head revealed low levels of most toxicants, with the exception of PCB's, which presented a significant human cancer risk from fish consumption.

Four Mile Run

Four Mile Run forms the boundary between Arlington County and the City of Alexandria in northern Virginia and empties into the Potomac just downstream of National Airport. Principal tributaries are Long Branch, Lucky, Doctors, and Lubber runs. Flooding of this stream valley in the Washington metropolitan area was alleviated by a \$63-million flood control project completed in 1980. Four Mile Run is the receiving stream for the Arlington Sewage Treatment Plant (STP) discharge.

Although toxics data are available for six stations in Four Mile Run, only one station provided sufficient data for trend analysis. Data at the George Washington Parkway station indicate a significant downward trend in Arsenic concentrations in the water column during the last 10 years and a very small increasing trend in Copper concentrations.

The more recent data indicate relatively high Lead and Zinc concentrations in sediment in Four Mile Run. Aldrin concentrations in the water column at 2 stations present a significant human cancer risk from drinking water. At the mouth of Four Mile Run, a single observation in 1983 suggests a toxic hazard from Zinc, Lead, and Cadmium concentrations in the water. In fact, the reported Zinc value (704 ug/l) was the highest Zinc concentration found in the entire Potomac Urban Estuary.

Cameron Run

Cameron Run is a tributary that drains an urban area west of Alexandria. As in Four Mile Run, Zinc and Lead concentrations in sediment are high here, and a significant cancer risk for drinking water results from Aldrin concentrations in the water column.

Hunting Creek

Hunting Creek is a tributary to the Potomac River on the Virginia side of the estuary, south of Alexandria. Once a wide

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tidal estuary itself, the mouth of Hunting Creek is now only 1 mile wide. The inland part of Hunting Creek is now a narrow channel, the remainder being filled in by siltation. It is the receiving stream for the Alexandria STP discharges. The only significant trend in Hunting Creek is a downward trend in Arsenic. Lead and Zinc levels in sediment are 82 and 112 mg/kg, respectively, and there is a significant cancer risk for drinking water resulting from Aldrin concentrations in water.

Piscataway Creek

Piscataway Creek is the major drainage in Prince George's County, Maryland, southeast of Washington, D.C. It is 17 miles (27 km) long, and its catchment is being developed as a suburban residential area. The Piscataway WWTP discharges treated sewage into the tidal Potomac. Water quality is impacted by suburban runoff and boat discharges. In 1977, Maryland analyzed one sample from 9 stations near a sludge disposal site and downstream in Piscataway Creek and found no metals concentrations of concern.

Little Hunting Creek

Little Hunting Creek flows in a southeasterly direction from a Virginia storm sewer system to the Potomac River under the George Washington Memorial Parkway at Mount Vernon. The creek flows through concrete channels into a wide marsh, where it enters the Potomac. The watershed is almost entirely developed. Little Hunting Creek is the receiving stream for the Little Hunting Creek WWTP which serves Fairfax County. Long-term plans call for its flow to be diverted to the Lower Potomac WWTP. The stream has been monitored extensively at the George Washington Parkway Bridge. Arsenic levels at this station in 1980 presented a considerable cancer risk for drinking water (2925 in 1 million), but there has been a significant downward trend in this parameter, and the cancer risk has been reduced by approximately a factor of 10 in 1987. Arsenic and Cadmium levels also posed a potential human health hazard for drinking water in 1986. Significant cancer risks may also result from regular consumption of Little Hunting Creek fish, which contained significant levels of Arsenic, Dieldrin, and Alpha-BHC in 1986. The cancer risks, calculated separately for each toxic constituent, vary from 10 to 280 in 1 million, but if synergistic effects are considered, the overall cancer risk from consumption of Little Hunting Creek fish could be considerably

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higher. Analysis of 1 sample in 1970 suggested that Chlordane levels in fish caught near the Sewage Treatment Plant were hazardous to human health, but in 1984 Chlordane levels in Little Hunting Creek fish were very low and posed no significant human health risk. Cadmium and Lead levels in the water in 1978 appeared to present health hazards for drinking water.

Pohick Creek and Gunston Cove

Pohick Creek empties into Pohick Bay and joins Accotink Bay to form Gunston Cove. Gunston Cove meets the Potomac main stem between Fort Belvoir and Mason Neck, 17 miles (27 km) below Washington, D.C. The watershed is mostly developed. Pohick Creek is the receiving stream for the discharge from the Lower Potomac WWTP.

In Accotink Creek, a significant upward trend in Lead and a downward trend in Mercury were found during the 1972-1979 period. However, a negative trend in Lead was noted from 1972 to 1979 in Pohick Creek. Thirteen years of data (1975-1988) taken by the Fairfax County Public Works in Pohick Creek indicate a significant downward trend in Mercury. A consistent finding from both old and new data is that Cadmium concentrations in Pohick Creek approach hazardous levels in drinking water, and that Arsenic and Aldrin concentrations, if consumed in drinking water, would result in significant cancer risk. Fairfax County Department of Public Works has monitored 7 metals at Gunston Cove stations (7G, 8G, 9G, 11G, and 12G -- see FCDPW Map, p. VI-10) from 1977 to 1982; in 1987, metals concentrations at the water surface and bottom were measured at the same stations (designated as GS and GB, respectively). At each station, the Mercury concentration was 5 times higher and the Lead concentration was 2 times higher at the bottom than at the surface. For Lead, these differences might be attributed to its greater solubility under low oxygen and low pH conditions, which are common near the bottom of the Potomac's estuarine tributaries during the summer. Little difference in water concentrations of the other metals at the surface and the bottom was observed. The water column concentration of Aldrin reported as 0.10 ug/l (and not flagged as a detection limit value) exceeds the aquatic life criteria established by Virginia in Four Mile Run, Cameron Run, Little Hunting Creek, Accotink Creek, and Pohick Creek.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
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Summary

Trends

Within the Potomac Urban Estuary, the most distinctive finding is a downward trend in Copper (approximately 8-10 ug/l per year) at several stations in the Potomac main stem and the Anacostia River. A smaller but significant decreasing trend in Arsenic occurs in Virginia tributaries, including Pimmit Run, Four Mile Run, Hunting Creek, and Little Hunting Creek. Mercury concentrations in water are also decreasing in Virginia streams, including Pimmit Run, Accotink Creek, and Pohick Creek. In the upper tributaries of Northwest Branch of the Anacostia, Cadmium, Lead, Nickel, and Mercury showed significant increasing trends in the late 1970's.

Human health

Although the data suggest that several chemicals, including Arsenic, Cadmium, Copper, and Lead are approaching hazardous levels for drinking water, the fact that either all values are at detection limit, or that the reporting period is not current, prevents the formation of a reliable conclusion concerning the human health status of the Potomac Urban Estuary waters in relation to these parameters. Recent extensive analysis of toxic parameters in water, fish, and sediment in Little Hunting Creek showed that cancer risks of 10 to 279 in 1 million exist for consumption of fish containing Aldrin, Alpha BHC, Dieldrin, and Arsenic.

Toxics Status/Standards Exceedance

Relatively high levels of metals, including Cadmium, Copper, Lead, and Zinc, were reported in recent years at many urban estuary stations; however, except for Zinc, the reported values are at detection limits, and therefore, actual metals levels could be lower than those reported. It is impossible to determine whether actual concentrations of these metals in the water exceed water quality standards.

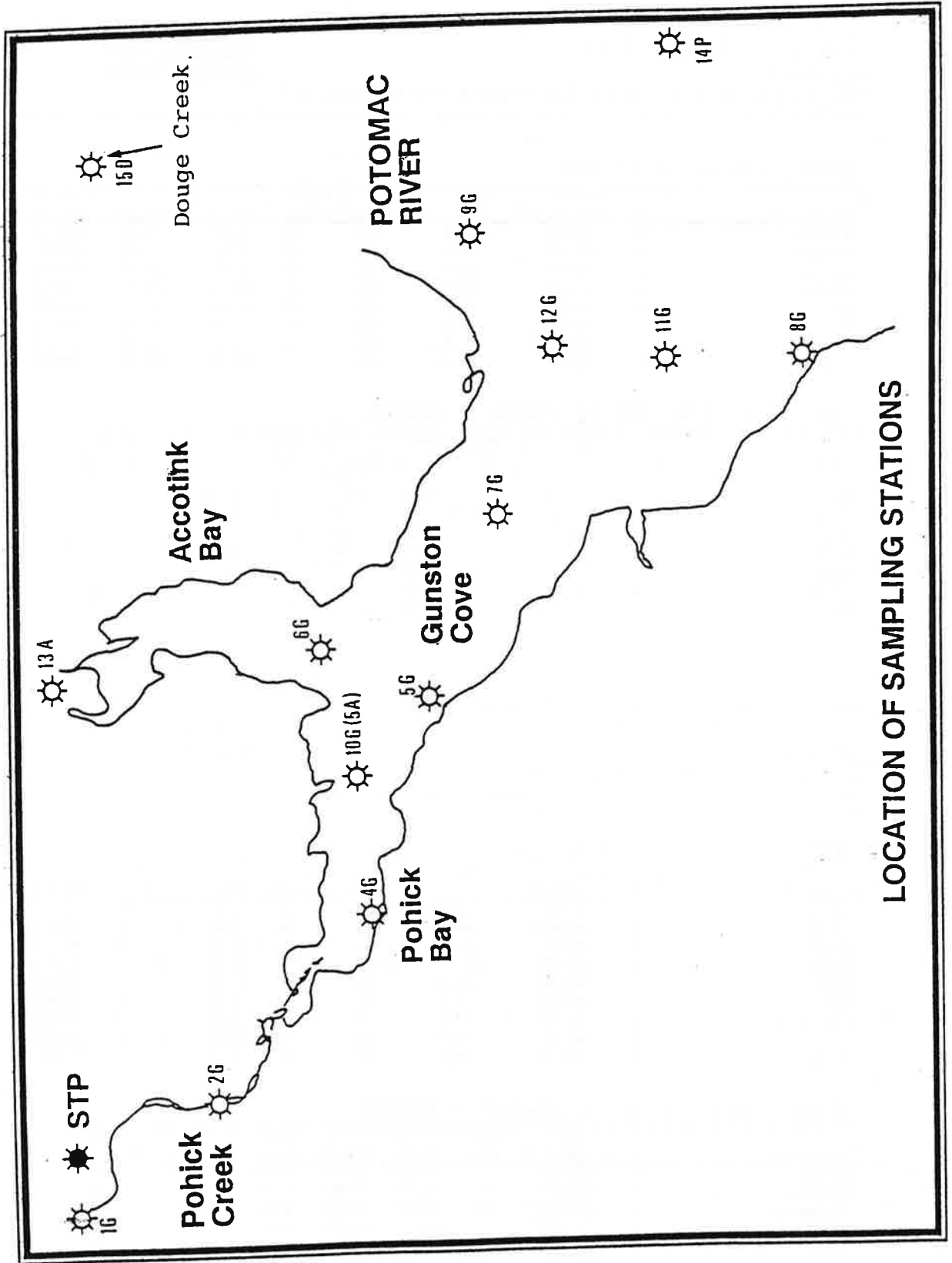
High Lead (63-166 mg/kg) and Zinc (112-373 mg/kg) concentrations were detected in the sediments of Four Mile Run, Cameron Run, and Hunting Creek, but sediments of other Virginia streams entering the Potomac to the south contained significantly lower concentrations of these metals. Median Zinc concentrations in the water column generally varied between 12 and 50 ug/l, but at some stations, particularly in the Anacostia River, median

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
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concentrations were 100 ug/l or greater. These Zinc levels exceeded the District of Columbia aquatic life criteria of 50 ug/l. It is interesting that the majority of maximum Zinc concentrations (116 to 737 ug/l) occurred from January through April of 1984 in the Potomac urban estuary. In Virginia streams, one reported Aldrin concentration of 0.1 ug/l exceeded the state criteria of 0.03 ug/l.

Map 7.

Fairfax County Department of
Public Works
Pohick Bay and Gunston Cove



LOCATION OF SAMPLING STATIONS

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
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<u>River</u>	Potomac River	<u>Station</u>	TC006
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	C & O Canal Fletcher's Boathouse, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870113	2
Cadmium	w	83-87	5(5)	NA	NA	5.00	5.00	861021	4
Chromium	w	83-87	5(5)	NA	NA	10.00	10.00	861021	4
Copper	w	83-87	5(5)	NA	NA	10.00	25.00	870113	1
Lead	w	83-87	5(5)	NA	NA	50.00	50.00	861021	4
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870113	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870113	2
Zinc	w	83-87	5(0)	NA	NA	89.00	300.00	840424	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870113	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870113	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870113	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870113	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870113	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870113	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870113	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870113	2	14.50	14.50	12.02	0.0020	NA

<u>River</u>	Potomac River	<u>Station</u>	PMS01
<u>R. Mile</u>	99.5	<u>Agency</u>	DCCRA
<u>Location</u>	Fletchers Boat House, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870105	2
Cadmium	w	83-87	4(4)	NA	NA	5.00	5.00	861014	3
Chromium	w	83-87	4(4)	NA	NA	10.00	10.00	861014	3
Copper	w	80-87	19(11)	-8.00	0.020	50.00	230.00	810318	1
Lead	w	83-87	4(4)	NA	NA	50.00	50.00	861014	3
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870105	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870105	2
Zinc	w	83-87	4(0)	NA	NA	170.50	441.00	840409	1
Phenols	w	73-74	7(0)	NA	NA	7.00	14.00	740107	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870105	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870105	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870105	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870105	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870105	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870105	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870105	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870105	2	170.50	170.50	126.57	0.0232	NA
Phenols	w	740318	6	7.00	7.50	3.78	0.0020	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	TDA01
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Dalecarlia, Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870113	2
Cadmium	w	83-87	5(5)	NA	NA	5.00	5.00	861021	4
Chromium	w	83-87	5(5)	NA	NA	10.00	10.00	861021	4
Copper	w	83-87	5(4)	NA	NA	10.00	25.00	870113	1
Lead	w	83-87	5(5)	NA	NA	50.00	50.00	861021	4
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870113	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870113	2
Zinc	w	83-87	5(2)	NA	NA	39.00	146.00	840125	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870113	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870113	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870113	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870113	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870113	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870113	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870113	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870113	2	12.50	12.50	10.61	0.0017	NA

<u>River</u>	Pimmit Run	<u>Station</u>	1APIM000.15
<u>R. Mile</u>	119.82-000.15	<u>Agency</u>	VASWCB
<u>Location</u>	Route 120 Bridge, Arlington Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-86	4(2)	NA	NA	6.10	11.00	860811	1
Arsenic	w	73-86	11(8)	-0.50	0.030	2.00	6.00	730802	1
Beryllium	w	83-86	2(1)	NA	NA	1.60	2.20	860811	1
Cadmium	s	80-86	4(4)	NA	NA	0.19	0.22	860811	1
Cadmium	w	72-86	12(10)	0.00	0.050	10.00	18.00	860714	1
Chromium	w	72-86	16(11)	0.00	0.050	10.00	10.00	810908	5
Chromium	s	80-86	4(0)	NA	NA	28.30	30.70	860811	1
Copper	s	80-86	4(0)	NA	NA	16.40	48.30	860811	1
Copper	w	72-86	15(10)	0.00	0.100	10.00	10.00	860714	7
Lead	s	80-86	4(0)	NA	NA	45.10	128.00	800623	1
Lead	w	72-86	15(6)	1.01	0.380	10.00	19.99	730802	1
Mercury	s	80-86	4(4)	NA	NA	0.09	0.20	810414	1
Mercury	w	72-86	15(14)	-0.14	0.070	0.50	0.80	751007	1
Nickel	s	80-86	4(0)	NA	NA	17.70	28.40	800623	1
Nickel	w	79-86	4(4)	NA	NA	10.00	100.00	860714	1
Selenium	w	83-86	2(2)	NA	NA	1.60	2.20	860811	1
Zinc	s	80-86	4(0)	NA	NA	89.55	147.00	800623	1
Zinc	w	72-86	16(7)	0.00	0.190	10.00	209.90	731206	1
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830606	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

Station IAPIM000.15 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860811	1	11.00	11.00	0.00	NA	NA
Arsenic	w	860714	1	1.00	1.00	0.00	NA	429
Beryllium	w	860811	1	2.20	2.20	0.00	0.1258	NA
Cadmium	s	860811	1	0.22	0.22	0.00	NA	NA
Cadmium	w	860714	1	18.00	18.00	0.00	1.7752	NA
Chromium	w	860714	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860811	1	30.70	30.70	0.00	NA	NA
Copper	s	860811	1	48.30	48.30	0.00	NA	NA
Copper	w	860714	1	10.00	10.00	0.00	0.0077	NA
Lead	s	860811	1	36.20	36.20	0.00	NA	NA
Lead	w	860714	1	1.00	1.00	0.00	0.0204	NA
Mercury	s	860811	1	0.10	0.10	0.00	NA	NA
Mercury	w	860714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860811	1	19.80	19.80	0.00	NA	NA
Nickel	w	860714	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860811	1	2.20	2.20	0.00	0.0210	NA
Zinc	s	860811	1	110.00	110.00	0.00	NA	NA
Zinc	w	860714	1	10.00	10.00	0.00	0.0014	NA
Aldrin	w	830606	1	0.10	0.10	0.00	0.0953	33

<u>River</u>	Potomac River	<u>Station</u>	101028
<u>R. Mile</u>	106.5	<u>Agency</u>	DCCRA
<u>Location</u>	At Chain Bridge, Mile 106.5, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Phenols	w	73-74	7(0)	NA	NA	8.00	26.00	740211	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Phenols	w	740319	7	8.00	11.00	6.90	0.0023	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	TBK01
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Battery Kimble, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870113	2
Cadmium	w	83-87	5(5)	NA	NA	5.00	5.00	861021	4
Chromium	w	83-87	5(4)	NA	NA	10.00	16.00	831018	1
Copper	w	83-87	5(4)	NA	NA	10.00	48.00	831018	1
Lead	w	83-87	5(5)	NA	NA	50.00	50.00	861021	4
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870113	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870113	2
Zinc	w	83-87	5(2)	NA	NA	106.00	161.00	840424	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870113	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870113	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870113	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870113	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870113	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870113	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870113	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870113	2	12.50	12.50	10.61	0.0017	NA

<u>River</u>	Potomac River	<u>Station</u>	TFB01
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Foundry Branch Park, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870113	2
Cadmium	w	84-87	4(4)	NA	NA	5.00	5.00	861021	3
Chromium	w	84-87	4(4)	NA	NA	10.00	10.00	861021	3
Copper	w	84-87	4(2)	NA	NA	17.50	25.00	870113	2
Lead	w	84-87	4(4)	NA	NA	50.00	50.00	861021	3
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870113	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870113	2
Zinc	w	84-87	4(0)	NA	NA	161.50	510.00	840125	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870113	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870113	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870113	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870113	2	25.00	25.00	0.00	0.0193	NA
Lead	w	870113	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870113	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870113	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870113	2	50.50	50.50	4.95	0.0069	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	101002
<u>R. Mile</u>	103.1	<u>Agency</u>	DCCRA
<u>Location</u>	Three Sisters Island, D. C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Phenols	w	73-74	7(0)	NA	NA	8.00	11.00	740107	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk	Notes
Phenols	w	740318	6	7.50	7.50	2.26	0.0021	NA	

<u>River</u>	Potomac River	<u>Station</u>	PMS10
<u>R. Mile</u>	97.25	<u>Agency</u>	DCCRA
<u>Location</u>	East Side Of Key Bridge, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870105	2
Cadmium	w	83-87	5(5)	NA	NA	5.00	5.00	861014	4
Chromium	w	83-87	5(5)	NA	NA	10.00	10.00	861014	4
Copper	w	83-87	5(4)	NA	NA	10.00	25.00	870105	1
Lead	w	83-87	5(5)	NA	NA	50.00	50.00	861014	4
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870105	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870105	2
Zinc	w	83-87	5(1)	NA	NA	93.00	203.00	840409	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870105	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870105	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870105	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870105	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870105	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870105	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870105	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870105	2	17.50	17.50	3.54	0.0024	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	PMS21
<u>R. Mile</u>	94.5	<u>Agency</u>	DCCRA
<u>Location</u>	Highway Bridge, Mile 99.7, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870105	2
Cadmium	w	83-87	4(4)	NA	NA	5.00	5.00	861014	3
Chromium	w	83-87	4(4)	NA	NA	10.00	10.00	861014	3
Copper	w	83-87	4(3)	NA	NA	10.00	25.00	870105	1
Lead	w	83-87	4(4)	NA	NA	50.00	50.00	861014	3
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870105	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870105	2
Zinc	w	83-87	4(2)	NA	NA	72.50	141.00	831012	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870105	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870105	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870105	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870105	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870105	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870105	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870105	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870105	2	12.50	12.50	10.61	0.0017	NA

<u>River</u>	Potomac River	<u>Station</u>	101005
<u>R. Mile</u>	99.7	<u>Agency</u>	DCCRA
<u>Location</u>	Highway Bridge, Mile 99.7, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Copper	w	80-81	33(20)	NA	NA	50.00	320.00	810318	1
Phenols	w	73-74	7(0)	NA	NA	7.00	14.00	740114	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Copper	w	811111	31	50.00	64.16	77.38	0.0386	NA
Phenols	w	740318	6	6.50	7.33	3.44	0.0019	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	101003
<u>R. Mile</u>	101.6	<u>Agency</u>	DCCRA
<u>Location</u>	Roosevelt Island, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Copper	w	80-81	15(8)	NA	NA	50.00	190.00	810220	1
Phenols	w	73-74	7(0)	NA	NA	8.00	11.00	740107	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Copper	w	811111	13	50.00	53.23	47.43	0.0386	NA
Phenols	w	740318	6	7.50	6.67	3.20	0.0021	NA

<u>River</u>	Potomac River	<u>Station</u>	TC001
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	C & O Canal Georgetown, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-86	1(1)	NA	NA	5.00	5.00	861021	1
Cadmium	w	83-86	4(4)	NA	NA	5.00	5.00	861021	4
Chromium	w	83-86	4(4)	NA	NA	10.00	10.00	861021	4
Copper	w	83-86	4(4)	NA	NA	10.00	10.00	861021	4
Lead	w	83-86	4(4)	NA	NA	50.00	50.00	861021	4
Mercury	w	86-86	1(1)	NA	NA	0.20	0.20	861021	1
Selenium	w	86-86	1(1)	NA	NA	5.00	5.00	861021	1
Zinc	w	83-86	4(0)	NA	NA	83.50	737.00	840424	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	861021	1	5.00	5.00	0.00	NA	2145
Cadmium	w	861021	1	5.00	5.00	0.00	0.4931	NA
Chromium	w	861021	1	10.00	10.00	0.00	0.0572	NA
Copper	w	861021	1	10.00	10.00	0.00	0.0077	NA
Lead	w	861021	1	50.00	50.00	0.00	1.0214	NA
Mercury	w	861021	1	0.20	0.20	0.00	0.0029	NA
Selenium	w	861021	1	5.00	5.00	0.00	0.0477	NA
Zinc	w	861021	1	18.00	18.00	0.00	0.0025	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Rock Creek	<u>Station</u>	101020
<u>R. Mile</u>	101-9.1	<u>Agency</u>	DCCRA
<u>Location</u>	D.C. Line, Mile 101-9.1, D. C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Copper	w	80-81	16(10)	NA	NA	50.00	100.00	810610	4

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Copper	w	811119	11	50.00	46.61	32.99	0.0386	NA

<u>River</u>	Rock Creek	<u>Station</u>	RCM0111
<u>R. Mile</u>	11.1	<u>Agency</u>	MDOEP
<u>Location</u>	Rockhold Cr. 1.5 miles above mouth of creek		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	81-84	3(2)	NA	NA	0.05	0.06	841023	1
Cadmium	f	81-84	3(0)	NA	NA	0.21	0.32	811008	1
Chromium	w	81-84	3(1)	NA	NA	0.83	0.90	841023	1
Copper	f	81-84	3(0)	NA	NA	1.10	1.10	841023	2
Lead	f	81-84	3(1)	NA	NA	0.70	2.80	841023	1
Mercury	f	81-84	8(0)	NA	NA	0.07	0.20	811008	1
Zinc	f	81-84	3(0)	NA	NA	17.00	19.00	811008	1
Alpha BHC	f	81-84	12(11)	NA	NA	0.00	0.00	841023	1
Gamma BHC(Lindane)	f	81-84	12(11)	NA	NA	0.00	0.24	841109	1
Chlordane	f	81-84	12(1)	NA	NA	0.16	2.10	841023	1
Dieldrin	f	81-84	12(0)	NA	NA	0.00	0.02	841023	1
Endrin	f	81-84	12(12)	NA	NA	0.00	0.00	841109	12
Heptachlor Epoxide	f	81-84	12(1)	NA	NA	0.00	0.04	841023	1
PCB's	f	81-84	12(0)	NA	NA	0.14	0.53	841023	1
P,P'DDD	f	81-84	12(1)	NA	NA	0.00	0.02	841023	1
P,P'DDE	f	81-84	12(0)	NA	NA	0.01	0.05	841023	1
P,P'DDT	f	81-84	12(12)	NA	NA	0.00	0.00	841109	12
Toxaphene	f	81-84	12(12)	NA	NA	0.01	0.01	841109	12

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	841023	1	0.06	0.06	0.00	NA	84
Cadmium	f	841023	1	0.21	0.21	0.00	0.0673	NA
Chromium	w	841023	1	0.90	0.90	0.00	0.0051	NA
Copper	f	841023	1	1.10	1.10	0.00	0.0028	NA
Lead	f	841023	1	2.80	2.80	0.00	0.1858	NA
Mercury	f	841109	6	0.05	0.05	0.05	0.0022	NA
Zinc	f	841023	1	17.00	17.00	0.00	0.0075	NA
Alpha BHC	f	841109	10	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	841109	10	0.00	0.02	0.08	NA	NA
Chlordane	f	841109	10	0.16	0.35	0.62	0.2973	24
Dieldrin	f	841109	10	0.00	0.00	0.01	NA	3
Endrin	f	841109	10	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	841109	10	0.00	0.01	0.01	0.0124	1
PCB's	f	841109	10	0.13	0.17	0.13	NA	52
P,P'DDD	f	841109	10	0.00	0.01	0.01	NA	NA
P,P'DDE	f	841109	10	0.01	0.01	0.01	NA	NA
P,P'DDT	f	841109	10	0.00	0.00	0.00	NA	NA
Toxaphene	f	841109	10	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Rock Creek	<u>Station</u>	RCR12
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>			

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870113	2
Cadmium	w	86-87	2(2)	NA	NA	3.50	5.00	861021	1
Chromium	w	86-87	2(2)	NA	NA	7.50	10.00	861021	1
Copper	w	86-87	2(2)	NA	NA	17.50	25.00	870113	1
Lead	w	86-87	2(2)	NA	NA	27.50	50.00	861021	1
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870113	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870113	2
Zinc	w	86-87	2(1)	NA	NA	44.00	68.00	861021	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870113	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870113	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870113	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870113	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870113	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870113	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870113	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870113	2	44.00	44.00	33.94	0.0060	NA

<u>River</u>	Rock Creek	<u>Station</u>	RCR09
<u>R. Mile</u>	9875.-7.6	<u>Agency</u>	DCCRA
<u>Location</u>	Rock Creek At Connecticut Avenue		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870113	2
Cadmium	w	84-87	4(4)	NA	NA	5.00	5.00	861021	3
Chromium	w	84-87	4(3)	NA	NA	10.00	11.00	840125	1
Copper	w	84-87	4(3)	NA	NA	11.00	25.00	870113	1
Lead	w	84-87	4(3)	NA	NA	50.00	58.00	840125	1
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870113	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870113	2
Zinc	w	84-87	4(1)	NA	NA	45.00	182.00	840125	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870113	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870113	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870113	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870113	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870113	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870113	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870113	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870113	2	16.00	16.00	5.66	0.0022	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Rock Creek	<u>Station</u>	RCR01
<u>R. Mile</u>	106.25-9.1	<u>Agency</u>	DCCRA
<u>Location</u>	At Meadowbrook Nature Center		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870113	2
Cadmium	w	83-87	5(5)	NA	NA	5.00	5.00	861021	4
Chromium	w	83-87	5(4)	NA	NA	10.00	23.00	831024	1
Copper	w	83-87	5(3)	NA	NA	11.00	25.00	870113	1
Lead	w	83-87	5(5)	NA	NA	50.00	50.00	861021	4
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870113	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870113	2
Zinc	w	83-87	5(1)	NA	NA	79.00	460.00	831024	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870113	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870113	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870113	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870113	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870113	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870113	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870113	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870113	2	14.00	14.00	8.49	0.0019	NA

<u>River</u>	Potomac River	<u>Station</u>	101004
<u>R. Mile</u>	100.70	<u>Agency</u>	DCCRA
<u>Location</u>	Memorial Bridge, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Phenols	w	73-74	7(0)	NA	NA	7.00	9.00	740318	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Phenols	w	740318	6	7.00	6.33	2.07	0.0020	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	1APOT113.49
<u>R. Mile</u>	113.49	<u>Agency</u>	VASWCB
<u>Location</u>	14th St. Bridge, Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-77	4(4)	NA	NA	2.50	5.00	720521	1
Cadmium	w	72-77	6(6)	NA	NA	10.00	10.00	770628	5
Chromium	w	72-77	7(5)	NA	NA	10.00	19.99	730530	1
Copper	w	72-77	7(4)	NA	NA	10.00	29.99	730821	1
Lead	w	72-77	6(3)	NA	NA	10.00	10.00	730821	4
Mercury	w	72-77	7(6)	NA	NA	0.50	1.00	730530	1
Zinc	w	72-77	7(3)	NA	NA	10.00	29.99	751018	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770628	1	2.00	2.00	0.00	NA	.858
Cadmium	w	770628	1	10.00	10.00	0.00	0.9861	NA
Chromium	w	770628	1	10.00	10.00	0.00	0.0572	NA
Copper	w	770628	1	10.00	10.00	0.00	0.0077	NA
Lead	w	770628	1	4.00	4.00	0.00	0.0817	NA
Mercury	w	770628	1	0.50	0.50	0.00	0.0072	NA
Zinc	w	770628	1	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Potomac River	<u>Station</u>	101006
<u>R. Mile</u>	99.1	<u>Agency</u>	DCCRA
<u>Location</u>	Potomac Park, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Phenols	w	73-74	7(0)	NA	NA	7.00	14.00	740114	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Phenols	w	740318	6	6.50	7.50	3.73	0.0019	NA

<u>River</u>	Potomac River	<u>Station</u>	101036
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Tidal Basin at Independence Ave. Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Copper	w	80-81	19(12)	NA	NA	50.00	150.00	810225	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Copper	w	811119	13	50.00	53.54	50.03	0.0986	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	PTB01
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Tidal Basin		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870113	2
Cadmium	w	86-87	2(2)	NA	NA	3.50	5.00	861021	1
Chromium	w	86-87	2(2)	NA	NA	7.50	10.00	861021	1
Copper	w	86-87	2(2)	NA	NA	17.50	25.00	870113	1
Lead	w	86-87	2(1)	NA	NA	28.00	50.00	861021	1
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870113	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870113	2
Zinc	w	86-87	2(1)	NA	NA	13.00	20.00	870113	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870113	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870113	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870113	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870113	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870113	2	28.00	28.00	31.11	0.5720	NA
Mercury	w	870113	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870113	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870113	2	13.00	13.00	9.90	0.0018	NA

<u>River</u>	Unnamed Tributary	<u>Station</u>	UOK0008
<u>R. Mile</u>	.80	<u>Agency</u>	MDOEP
<u>Location</u>	Treeline 1000' S. of Pool Rd., 800' W. of Colesville Rd.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	76-78	7(7)	NA	NA	0.05	0.05	780802	4
Chromium	w	76-78	7(7)	NA	NA	0.10	0.10	780516	4
Copper	w	76-78	7(6)	NA	NA	0.05	0.05	780802	7
Lead	w	76-78	7(7)	NA	NA	0.50	0.50	780802	4
Mercury	w	76-78	7(5)	NA	NA	0.00	0.00	780802	1
Nickel	w	76-78	7(7)	NA	NA	0.20	0.50	780802	3

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	780802	3	0.05	0.05	0.00	0.0049	NA
Chromium	w	780802	3	0.05	0.07	0.03	0.0003	NA
Copper	w	780802	3	0.05	0.05	0.00	NA	NA
Lead	w	780802	3	0.50	0.50	0.00	0.0102	NA
Mercury	w	780802	3	0.00	0.00	0.00	NA	NA
Nickel	w	780802	3	0.50	0.50	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Unnamed Tributary	<u>Station</u>	UOK0006
<u>R. Mile</u>	.60	<u>Agency</u>	MDOEP
<u>Location</u>	Treeline 1000 Ft. S. of Pool Road.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	76-77	12(12)	NA	NA	0.05	0.05	771004	7
Chromium	w	76-77	12(12)	NA	NA	0.10	0.10	771004	11
Copper	w	76-77	12(12)	NA	NA	0.05	0.05	771004	12
Lead	w	76-77	12(12)	NA	NA	0.50	0.50	771004	7
Mercury	w	76-77	11(8)	NA	NA	0.00	0.00	770405	1
Nickel	w	76-77	12(12)	NA	NA	0.20	0.50	771004	5

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	771004	12	0.05	0.04	0.01	0.0049	NA
Chromium	w	771004	12	0.10	0.10	0.01	0.0006	NA
Copper	w	771004	12	0.05	0.05	0.00	NA	NA
Lead	w	771004	12	0.50	0.36	0.18	0.0102	NA
Mercury	w	771004	11	0.00	0.00	0.00	NA	NA
Nickel	w	771004	12	0.20	0.28	0.19	0.0006	NA

<u>River</u>	Unnamed Tributary	<u>Station</u>	UOK0004
<u>R. Mile</u>	.40	<u>Agency</u>	MDOEP
<u>Location</u>	Treeline 1000 Ft. S. of Pool Road.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	76-79	35(35)	0.01	0.000	0.05	0.05	790926	22
Chromium	w	76-79	34(32)	0.00	0.240	0.08	0.10	780606	17
Copper	w	76-79	35(35)	0.00	0.190	0.05	0.05	790926	34
Lead	w	76-79	35(35)	0.04	0.020	0.20	0.50	780907	16
Mercury	w	76-79	31(24)	0.00	0.040	0.00	0.00	780516	1
Nickel	w	76-79	35(35)	0.05	0.030	0.20	0.50	780802	13

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	791210	4	0.05	0.04	0.02	0.0049	NA
Chromium	w	791210	4	0.05	0.05	0.00	0.0003	NA
Copper	w	791210	4	0.05	0.04	0.02	NA	NA
Lead	w	791210	4	0.20	0.20	0.00	0.0041	NA
Mercury	w	791210	3	0.00	0.00	0.00	NA	NA
Nickel	w	791210	4	0.20	0.18	0.05	0.0006	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Unnamed Tributary	<u>Station</u>	UOK0001
<u>R. Mile</u>	.10	<u>Agency</u>	MDOEP
<u>Location</u>	300' down Rd. r.of Bryants Nursery Rd.,.7 mi.from N.H. Ave.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	76-79	34(34)	0.01	0.000	0.05	0.05	790926	21
Chromium	w	76-79	33(33)	0.00	0.130	0.05	0.10	780606	16
Copper	w	76-79	34(34)	0.00	0.190	0.05	0.05	790926	33
Lead	w	76-79	34(34)	0.03	0.040	0.20	0.50	780907	15
Mercury	w	76-79	30(22)	0.00	0.080	0.00	0.00	770712	1
Nickel	w	76-79	34(34)	0.03	0.080	0.20	0.50	780802	13

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	791211	4	0.05	0.04	0.02	0.0049	NA
Chromium	w	791211	4	0.05	0.05	0.00	0.0003	NA
Copper	w	791211	4	0.05	0.04	0.02	NA	NA
Lead	w	791211	4	0.20	0.20	0.00	0.0041	NA
Mercury	w	791211	3	0.00	0.00	0.00	NA	NA
Nickel	w	791211	4	0.20	0.18	0.05	0.0006	NA

<u>River</u>	Unnamed Tributary	<u>Station</u>	UOW0001
<u>R. Mile</u>	.10	<u>Agency</u>	MDOEP
<u>Location</u>	1st Rd. W. N.H. Ave., N. of MD 198 (settling basin).		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	76-79	27(27)	0.01	0.020	0.05	0.05	790314	20
Chromium	w	76-79	27(27)	0.00	0.380	0.10	0.10	780606	17
Copper	w	76-79	27(26)	0.00	0.500	0.05	0.20	770912	1
Lead	w	76-79	27(27)	0.05	0.140	0.50	0.50	780907	16
Mercury	w	76-78	22(14)	NA	NA	0.00	0.00	780802	7
Nickel	w	76-79	27(26)	0.05	0.220	0.20	0.50	780802	13

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	790314	10	0.05	0.05	0.00	0.0049	NA
Chromium	w	790314	10	0.05	0.07	0.02	0.0003	NA
Copper	w	790314	10	0.05	0.05	0.00	NA	NA
Lead	w	790314	10	0.50	0.38	0.15	0.0102	NA
Mercury	w	780907	10	0.00	0.00	0.00	NA	NA
Nickel	w	790314	10	0.35	0.35	0.16	0.0010	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Unnamed Tributary	<u>Station</u> UPS0004
<u>R. Mile</u>	.40	<u>Agency</u> MDOEP
<u>Location</u>	X-ing Old Orchard Rd. .15 mile from Ednor Road.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	76-79	36(36)	0.01	0.000	0.05	0.05	790926	23
Chromium	w	76-79	35(35)	0.00	0.250	0.10	0.10	780606	18
Copper	w	76-79	36(36)	0.00	0.190	0.05	0.05	790926	35
Lead	w	76-79	36(36)	0.03	0.030	0.20	0.50	780907	17
Mercury	w	76-79	31(23)	0.00	0.070	0.00	0.00	770712	1
Nickel	w	76-79	36(34)	0.05	0.040	0.20	0.50	780802	14

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	791211	4	0.05	0.04	0.02	0.0049	NA
Chromium	w	791211	4	0.05	0.05	0.00	0.0003	NA
Copper	w	791211	4	0.05	0.04	0.02	NA	NA
Lead	w	791211	4	0.20	0.20	0.00	0.0041	NA
Mercury	w	791211	3	0.00	0.00	0.00	NA	NA
Nickel	w	791211	4	0.20	0.18	0.05	0.0006	NA

<u>River</u>	Unnamed Tributary	<u>Station</u> UDN0013
<u>R. Mile</u>	1.30	<u>Agency</u> MDOEP
<u>Location</u>	300' Down Rd. r. of Bryants Nursery Rd. 7 mi. from N.H.Ave.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	76-79	33(33)	0.01	0.010	0.05	0.05	790618	21
Chromium	w	76-79	32(32)	0.00	0.420	0.08	0.10	780606	16
Copper	w	76-79	33(33)	0.00	0.190	0.05	0.05	790618	32
Lead	w	76-79	33(33)	0.05	0.020	0.20	0.50	780907	16
Mercury	w	76-79	28(21)	0.00	0.030	0.00	0.00	790618	2
Nickel	w	76-79	33(33)	0.05	0.050	0.20	0.50	780802	13

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	791211	3	0.05	0.04	0.02	0.0049	NA
Chromium	w	791211	3	0.05	0.05	0.00	0.0003	NA
Copper	w	791211	3	0.05	0.04	0.02	NA	NA
Lead	w	791211	3	0.20	0.20	0.00	0.0041	NA
Mercury	w	791211	2	0.00	0.00	0.00	NA	NA
Nickel	w	791211	3	0.20	0.17	0.06	0.0006	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Unnamed Tributary	<u>Station</u>	UIL0002
<u>R. Mile</u>	.20	<u>Agency</u>	MDOEP
<u>Location</u>	1st Rd. W. N.H. Ave., N. of MD 198 (settling basin B).		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	76-79	18(18)	0.01	0.270	0.05	0.05	790314	16
Chromium	w	76-79	18(18)	-0.03	0.270	0.10	0.10	780605	12
Copper	w	76-79	18(16)	0.00	0.500	0.05	0.09	771101	1
Lead	w	76-79	18(18)	0.05	0.500	0.50	0.50	780907	12
Mercury	w	76-78	15(5)	NA	NA	0.00	0.00	771004	1
Nickel	w	76-79	18(18)	0.05	0.500	0.35	0.50	780802	9

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	790314	9	0.05	0.05	0.00	0.0049	NA
Chromium	w	790314	9	0.05	0.07	0.03	0.0003	NA
Copper	w	790314	9	0.05	0.05	0.00	NA	NA
Lead	w	790314	9	0.50	0.37	0.16	0.0102	NA
Mercury	w	780907	9	0.00	0.00	0.00	NA	NA
Nickel	w	790314	9	0.20	0.33	0.16	0.0006	NA

<u>River</u>	Unnamed Tributary	<u>Station</u>	UDN0009
<u>R. Mile</u>	.90	<u>Agency</u>	MDOEP
<u>Location</u>	30' r. of Bryants Nursery Rd., 9 mi. from N.H. Ave.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	76-79	36(35)	0.01	0.000	0.05	0.05	790926	23
Chromium	w	76-79	35(35)	0.00	0.360	0.10	0.10	780606	18
Copper	w	76-79	36(36)	0.00	0.270	0.05	0.05	790926	35
Lead	w	76-79	36(36)	0.04	0.020	0.20	0.50	780907	17
Mercury	w	76-79	31(26)	0.00	0.040	0.00	0.00	780802	1
Nickel	w	76-79	36(36)	0.05	0.020	0.20	0.50	780802	14

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	791211	4	0.05	0.04	0.02	0.0049	NA
Chromium	w	791211	4	0.05	0.05	0.00	0.0003	NA
Copper	w	791211	4	0.05	0.04	0.02	NA	NA
Lead	w	791211	4	0.20	0.20	0.00	0.0041	NA
Mercury	w	791211	3	0.00	0.00	0.00	NA	NA
Nickel	w	791211	4	0.20	0.18	0.05	0.0006	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	North West Branch Anacostia River	<u>Station</u>	NWA0171
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	At trib. NW Br. Pk Disposal Rd. X-ing		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	79-79	4(4)	NA	NA	0.05	0.05	791105	4
Copper	w	79-79	4(4)	NA	NA	0.05	0.05	791105	4
Lead	w	79-79	4(4)	NA	NA	0.20	0.20	791105	4
Mercury	w	79-79	4(2)	NA	NA	0.00	0.00	790801	1
Nickel	w	79-79	4(4)	NA	NA	0.20	0.20	791105	4

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	791105	4	0.05	0.05	0.00	0.0049	NA
Copper	w	791105	4	0.05	0.05	0.00	NA	NA
Lead	w	791105	4	0.20	0.20	0.00	0.0041	NA
Mercury	w	791105	4	0.00	0.00	0.00	NA	NA
Nickel	w	791105	4	0.20	0.20	0.00	0.0006	NA

<u>River</u>	North West Branch Anacostia River	<u>Station</u>	NWA0160
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	At abandoned bridge 150' So. Bonifant Rd. X-ing.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	79-79	9(9)	NA	NA	0.05	0.05	791105	9
Chromium	w	79-79	1(1)	NA	NA	0.05	0.05	790109	1
Copper	w	79-79	9(9)	NA	NA	0.05	0.05	791105	9
Lead	w	79-79	9(8)	NA	NA	0.20	0.20	791105	9
Mercury	w	79-79	6(2)	NA	NA	0.00	0.00	790702	2
Nickel	w	79-79	9(9)	NA	NA	0.20	0.20	791105	9

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	791105	9	0.05	0.05	0.00	0.0049	NA
Chromium	w	790109	1	0.05	0.05	0.00	0.0003	NA
Copper	w	791105	9	0.05	0.05	0.00	NA	NA
Lead	w	791105	9	0.20	0.20	0.00	0.0041	NA
Mercury	w	791105	6	0.00	0.00	0.00	NA	NA
Nickel	w	791105	9	0.20	0.20	0.00	0.0006	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	North West Branch Anacostia River	<u>Station</u>	01651000
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Near Hyattsville, Prince Georges Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	71-71	1(0)	NA	NA	18.00	18.00	710929	1
Lead	w	73-73	1(0)	NA	NA	13.00	13.00	731206	1
Zinc	w	73-73	1(0)	NA	NA	320.00	320.00	731206	1
Cyanide	w	72-73	3(0)	NA	NA	0.01	0.01	730309	3
Phenols	w	72-73	4(0)	NA	NA	3.00	8.00	730309	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	710929	1	18.00	18.00	0.00	0.1030	NA
Lead	w	731206	1	13.00	13.00	0.00	0.2656	NA
Zinc	w	731206	1	320.00	320.00	0.00	0.0436	NA
Cyanide	w	730309	3	0.01	0.01	0.00	NA	NA
Phenols	w	731206	3	4.00	4.33	3.51	0.0011	NA

<u>River</u>	Unnamed Tributary	<u>Station</u>	UIC0016
<u>R. Mile</u>	1.60	<u>Agency</u>	MDOEP
<u>Location</u>	Opposite of mineral pigments co. across RR tracks and Rt. 1.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	71-71	1(1)	NA	NA	0.50	0.50	710301	1
Lead	w	71-71	1(1)	NA	NA	0.10	0.10	710301	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	710301	1	0.50	0.50	0.00	0.0029	NA
Lead	w	710301	1	0.10	0.10	0.00	0.0020	NA

<u>River</u>	Unnamed Tributary	<u>Station</u>	UIC0015
<u>R. Mile</u>	1.50	<u>Agency</u>	MDOEP
<u>Location</u>	1000 Ft. below mineral pigments outfall		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	71-71	1(0)	NA	NA	2.00	2.00	710308	1
Lead	w	71-71	1(0)	NA	NA	0.50	0.50	710308	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	710308	1	2.00	2.00	0.00	0.0114	NA
Lead	w	710308	1	0.50	0.50	0.00	0.0102	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Unnamed Tributary	<u>Station</u>	UIC0007
<u>R. Mile</u>	.70	<u>Agency</u>	MDOEP
<u>Location</u>	Ammendale Rd. crossing		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	71-71	1(0)	NA	NA	6.00	6.00	710301	1
Lead	w	71-71	1(1)	NA	NA	0.50	0.50	710301	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	710301	1	6.00	6.00	0.00	0.0343	NA
Lead	w	710301	1	0.50	0.50	0.00	0.0102	NA

<u>River</u>	Indian Creek	<u>Station</u>	INC0051
<u>R. Mile</u>	5.10	<u>Agency</u>	MDOEP
<u>Location</u>	Odell Rd. crossing		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	71-71	1(0)	NA	NA	2.00	2.00	710302	1
Lead	w	71-71	1(1)	NA	NA	0.50	0.50	710302	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	710302	1	2.00	2.00	0.00	0.0114	NA
Lead	w	710302	1	0.50	0.50	0.00	0.0102	NA

<u>River</u>	Indian Creek	<u>Station</u>	INC0044
<u>R. Mile</u>	4.40	<u>Agency</u>	MDOEP
<u>Location</u>	Powder Mill Rd. crossing		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Lead	w	71-71	1(1)	NA	NA	0.50	0.50	710302	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Lead	w	710302	1	0.50	0.50	0.00	0.0102	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Indian Creek	<u>Station</u>	INC0036
<u>R. Mile</u>	3.60	<u>Agency</u>	MDOEP
<u>Location</u>	Sunnyside Ave. crossing		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	71-71	1(0)	NA	NA	1.00	1.00	710302	1
Lead	w	71-71	1(1)	NA	NA	0.50	0.50	710302	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	710302	1	1.00	1.00	0.00	0.0057	NA
Lead	w	710302	1	0.50	0.50	0.00	0.0102	NA

<u>River</u>	Anacostia River	<u>Station</u>	101031
<u>R. Mile</u>	97-9.4-.1	<u>Agency</u>	DCCRAC
<u>Location</u>	Rhode Island St. Bridge On N.W. Branch Of Anacostia River		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Phenols	w	73-74	10(0)	NA	NA	20.00	29.00	740211	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Phenols	w	740319	10	20.00	20.40	4.22	0.0057	NA

<u>River</u>	North East Branch Anacostia River	<u>Station</u>	01649500
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Riverdale, Prince Georges Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	73-73	1(0)	NA	NA	100.00	100.00	731206	1
Copper	w	73-73	1(1)	NA	NA	20.00	20.00	731206	1
Lead	w	73-73	1(0)	NA	NA	23.00	23.00	731206	1
Zinc	w	73-73	1(0)	NA	NA	220.00	220.00	731206	1
Cyanide	w	73-73	2(0)	NA	NA	0.01	0.01	731206	2
Phenols	w	72-73	3(0)	NA	NA	1.00	7.00	721213	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	731206	1	100.00	100.00	0.00	0.5720	NA
Copper	w	731206	1	20.00	20.00	0.00	0.0155	NA
Lead	w	731206	1	23.00	23.00	0.00	0.4699	NA
Zinc	w	731206	1	220.00	220.00	0.00	0.0300	NA
Cyanide	w	731206	2	0.01	0.01	0.00	NA	NA
Phenols	w	731206	3	1.00	3.00	3.46	0.0003	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	North East Branch Anacostia River	<u>Station</u>	NEB0016
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Riverdale Rd. X-ing D/S gage		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	80-84	6(3)	0.02	0.130	0.08	0.13	831027	1
Cadmium	f	80-85	8(0)	-0.01	0.500	0.25	0.60	831027	1
Chromium	w	80-85	8(4)	0.00	0.180	0.50	1.70	831027	1
Copper	f	80-85	8(0)	0.28	0.070	1.05	6.80	841023	1
Lead	f	80-85	8(0)	0.00	0.500	1.65	4.20	831027	2
Mercury	f	80-85	8(0)	-0.01	0.130	0.04	0.16	801024	1
Zinc	f	80-85	8(0)	3.33	0.420	16.00	71.00	851010	1
Alpha BHC	f	80-85	8(6)	0.00	0.330	0.00	0.01	801024	1
Gamma BHC(Lindane)	f	80-85	8(7)	0.00	0.120	0.00	0.00	851010	1
Chlordane	f	80-85	8(0)	0.02	0.350	0.19	0.93	831027	1
Dieldrin	f	80-85	8(0)	0.00	0.350	0.01	0.04	841023	1
Endrin	f	80-85	8(8)	0.00	0.500	0.00	0.00	851010	8
Heptachlor Epoxide	f	80-85	8(1)	0.00	0.070	0.01	0.09	831027	1
Hexachlorobenzene	f	85-85	2(0)	NA	NA	0.00	0.00	851010	1
PCB-1242	f	85-85	2(0)	NA	NA	0.04	0.04	851010	1
PCB-1254	f	85-85	2(0)	NA	NA	0.19	0.22	851010	1
PCB1260	f	85-85	2(0)	NA	NA	0.34	0.40	851010	1
PCB's	f	80-85	8(0)	0.04	0.230	0.34	0.65	851010	1
P,P'DDD	f	80-85	8(0)	0.00	0.420	0.02	0.12	831027	1
P,P'DDE	f	80-85	8(0)	0.00	0.420	0.03	0.04	851010	1
P,P'DDT	f	80-85	8(8)	0.00	0.500	0.00	0.00	851010	8
Toxaphene	f	80-85	8(8)	0.00	0.500	0.01	0.01	851010	8

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	841023	3	0.12	0.12	0.01	NA	167
Cadmium	f	851010	3	0.36	0.27	0.16	0.1153	NA
Chromium	w	851010	3	0.50	0.50	0.00	0.0029	NA
Copper	f	851010	3	1.70	3.20	3.13	0.0043	NA
Lead	f	851010	3	1.40	1.40	0.50	0.0929	NA
Mercury	f	851010	3	0.05	0.04	0.01	0.0021	NA
Zinc	f	851010	3	7.30	28.43	36.86	0.0032	NA
Alpha BHC	f	851010	3	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	851010	3	0.00	0.00	0.00	NA	NA
Chlordane	f	851010	3	0.08	0.18	0.18	0.1561	13
Dieldrin	f	851010	3	0.00	0.02	0.02	NA	8
Endrin	f	851010	3	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	851010	3	0.01	0.03	0.03	0.0279	2
Hexachlorobenzene	f	851010	2	0.00	0.00	0.00	NA	NA
PCB-1242	f	851010	2	0.04	0.04	0.01	NA	14
PCB-1254	f	851010	2	0.19	0.19	0.05	NA	75
PCB1260	f	851010	2	0.34	0.34	0.08	NA	137
PCB's	f	851010	3	0.64	0.59	0.10	NA	258
P,P'DDD	f	851010	3	0.01	0.01	0.01	NA	NA
P,P'DDE	f	851010	3	0.04	0.03	0.01	NA	NA
P,P'DDT	f	851010	3	0.00	0.00	0.00	NA	NA
Toxaphene	f	851010	3	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Anacostia River	<u>Station</u>	101029
<u>R. Mile</u>	97-9.8	<u>Agency</u>	DCCRA
<u>Location</u>	Decatur Rd. Bridge, NE. Branch Of Anacostia River		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Phenols	w	73-74	10(0)	NA	NA	19.50	37.00	740211	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Phenols	w	740319	10	19.50	20.90	6.35	0.0056	NA

<u>River</u>	Anacostia River	<u>Station</u>	101030
<u>R. Mile</u>	97-8.7	<u>Agency</u>	DCCRA
<u>Location</u>	Bladensburg Rd. Bridge, NE. Branch Of Anacostia River		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Copper	w	81-81	1(0)	NA	NA	530.00	530.00	810225	1
Phenols	w	73-74	10(0)	NA	NA	21.50	41.00	740211	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Copper	w	810225	1	530.00	530.00	0.00	0.4097	NA
Phenols	w	740319	10	21.50	22.10	7.69	0.0061	NA

<u>River</u>	Anacostia River	<u>Station</u>	ANA01
<u>R. Mile</u>	99.25-7.2	<u>Agency</u>	DCCRA
<u>Location</u>	D. C. Line Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870106	2
Cadmium	w	83-87	5(5)	NA	NA	5.00	5.00	861015	4
Chromium	w	83-87	5(5)	NA	NA	10.00	10.00	861015	4
Copper	w	80-87	22(14)	-10.64	0.050	50.00	240.00	810224	1
Lead	w	83-87	5(5)	NA	NA	50.00	50.00	861015	4
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870106	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870106	2
Zinc	w	83-87	5(0)	NA	NA	94.00	293.00	840131	1
Phenols	w	73-74	10(0)	NA	NA	20.50	81.00	740211	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870106	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870106	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870106	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870106	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870106	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870106	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870106	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870106	2	61.00	61.00	43.84	0.0083	NA
Phenols	w	740319	10	20.50	25.80	19.74	0.0059	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Anacostia River	<u>Station</u>	TUT01
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Unnamed Tributary, New York & So. Dakota, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	84-84	2(2)	NA	NA	5.00	5.00	840423	2
Chromium	w	84-84	2(2)	NA	NA	10.00	10.00	840423	2
Copper	w	84-84	2(2)	NA	NA	10.00	10.00	840423	2
Lead	w	84-84	2(2)	NA	NA	50.00	50.00	840423	2
Zinc	w	84-84	2(0)	NA	NA	117.50	127.00	840130	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	840423	2	5.00	5.00	0.00	0.4931	NA
Chromium	w	840423	2	10.00	10.00	0.00	0.0572	NA
Copper	w	840423	2	10.00	10.00	0.00	0.0077	NA
Lead	w	840423	2	50.00	50.00	0.00	1.0214	NA
Zinc	w	840423	2	117.50	117.50	13.44	0.0160	NA

<u>River</u>	Anacostia River	<u>Station</u>	THR01
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Nash Street, NE., Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Cadmium	w	83-87	6(6)	NA	NA	5.00	5.00	861020	5
Chromium	w	83-87	6(6)	NA	NA	10.00	10.00	861020	5
Copper	w	83-87	6(5)	NA	NA	10.00	30.00	831019	1
Lead	w	83-87	6(6)	NA	NA	50.00	54.00	831019	1
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870112	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Zinc	w	83-87	6(1)	NA	NA	111.50	353.00	831019	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870112	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870112	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870112	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870112	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870112	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870112	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870112	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870112	2	59.50	59.50	57.28	0.0081	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Anacostia River	<u>Station</u>	TNA01
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Nash Street, N.E., Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Cadmium	w	83-87	5(5)	NA	NA	5.00	5.00	861020	4
Chromium	w	83-87	5(5)	NA	NA	10.00	10.00	861020	4
Copper	w	83-87	5(5)	NA	NA	10.00	25.00	870112	1
Lead	w	83-87	5(5)	NA	NA	50.00	50.00	861020	4
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870112	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Zinc	w	83-87	5(1)	NA	NA	100.00	154.00	840130	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870112	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870112	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870112	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870112	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870112	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870112	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870112	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870112	2	59.00	59.00	57.98	0.0080	NA

<u>River</u>	Anacostia River	<u>Station</u>	TWB01
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Watts Branch, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Cadmium	w	83-87	7(7)	NA	NA	5.00	5.00	861020	6
Chromium	w	83-87	7(7)	NA	NA	10.00	10.00	861020	6
Copper	w	83-87	7(6)	NA	NA	10.00	25.00	870112	1
Lead	w	83-87	7(7)	NA	NA	50.00	50.00	861020	6
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870112	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Zinc	w	83-87	7(1)	NA	NA	109.00	149.00	840130	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870112	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870112	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870112	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870112	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870112	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870112	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870112	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870112	2	55.00	55.00	63.64	0.0075	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Anacostia River	<u>Station</u>	101014
<u>R. Mile</u>	97-5.3	<u>Agency</u>	DCCRA
<u>Location</u>	Benning Road Bridge, D. C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Copper	w	80-81	16(9)	NA	NA	50.00	200.00	810224	1
Phenols	w	73-74	10(0)	NA	NA	21.00	108.00	740211	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Copper	w	811110	14	50.00	51.01	50.15	0.0386	NA
Phenols	w	740319	10	21.00	27.70	28.42	0.0060	NA

<u>River</u>	Anacostia River	<u>Station</u>	ANA08
<u>R. Mile</u>	96-3.6	<u>Agency</u>	DCCRA
<u>Location</u>	Benning Road Bridge, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870106	2
Cadmium	w	83-87	5(5)	NA	NA	5.00	5.00	861015	4
Chromium	w	83-87	5(5)	NA	NA	10.00	10.00	861015	4
Copper	w	83-87	5(4)	NA	NA	10.00	25.00	870106	1
Lead	w	83-87	5(5)	NA	NA	50.00	50.00	861015	4
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870106	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870106	2
Zinc	w	83-87	5(0)	NA	NA	90.00	154.00	840131	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870106	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870106	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870106	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870106	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870106	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870106	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870106	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870106	2	29.00	29.00	2.83	0.0039	NA

<u>River</u>	Anacostia River	<u>Station</u>	101015
<u>R. Mile</u>	97-4.8	<u>Agency</u>	DCCRA
<u>Location</u>	East Capitol Street Bridge, D. C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Phenols	w	73-74	10(0)	NA	NA	17.50	110.00	740211	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Phenols	w	740319	10	17.50	27.40	29.13	0.0050	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Anacostia River	<u>Station</u>	TDU01
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Fort Dupont, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	1(1)	NA	NA	5.00	5.00	870112	1
Cadmium	w	83-87	4(4)	NA	NA	5.00	5.00	840423	3
Chromium	w	83-87	4(4)	NA	NA	10.00	10.00	840423	3
Copper	w	83-87	4(3)	NA	NA	14.00	25.00	870112	1
Lead	w	83-87	4(4)	NA	NA	50.00	50.00	840423	3
Mercury	w	87-87	1(1)	NA	NA	0.20	0.20	870112	1
Selenium	w	87-87	1(1)	NA	NA	5.00	5.00	870112	1
Zinc	w	83-87	4(1)	NA	NA	109.00	173.00	840130	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870112	1	5.00	5.00	0.00	NA	2145
Cadmium	w	870112	1	2.00	2.00	0.00	0.1972	NA
Chromium	w	870112	1	5.00	5.00	0.00	0.0286	NA
Copper	w	870112	1	25.00	25.00	0.00	0.0193	NA
Lead	w	870112	1	5.00	5.00	0.00	0.1021	NA
Mercury	w	870112	1	0.20	0.20	0.00	0.0029	NA
Selenium	w	870112	1	5.00	5.00	0.00	0.0477	NA
Zinc	w	870112	1	100.00	100.00	0.00	0.0136	NA

<u>River</u>	Potomac River	<u>Station</u>	TFC01
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Fort Chapin, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Cadmium	w	84-87	4(4)	NA	NA	5.00	5.00	861020	3
Chromium	w	84-87	4(4)	NA	NA	10.00	10.00	861020	3
Copper	w	84-87	4(3)	NA	NA	13.00	25.00	870112	1
Lead	w	84-87	4(4)	NA	NA	50.00	50.00	861020	3
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870112	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Zinc	w	84-87	4(1)	NA	NA	114.50	270.00	840130	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870112	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870112	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870112	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870112	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870112	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870112	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870112	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870112	2	54.00	54.00	65.05	0.0074	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Anacostia River	<u>Station</u>	TPB01
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Pope's Branch, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Cadmium	w	83-87	5(5)	NA	NA	5.00	5.00	861020	4
Chromium	w	83-87	5(5)	NA	NA	10.00	10.00	861020	4
Copper	w	83-87	5(5)	NA	NA	10.00	25.00	870112	1
Lead	w	83-87	5(5)	NA	NA	50.00	50.00	861020	4
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870112	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Zinc	w	83-87	5(1)	NA	NA	100.00	116.00	840130	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870112	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870112	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870112	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870112	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870112	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870112	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870112	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870112	2	54.00	54.00	65.05	0.0074	NA

<u>River</u>	Anacostia River	<u>Station</u>	ANA14
<u>R. Mile</u>	96-3.6	<u>Agency</u>	DCCRA
<u>Location</u>	Pennsylvania Avenue Bridge, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870106	2
Cadmium	w	83-87	5(5)	NA	NA	5.00	5.00	861015	4
Chromium	w	83-87	5(5)	NA	NA	10.00	10.00	861015	4
Copper	w	80-87	20(12)	-8.00	0.070	50.00	220.00	810316	1
Lead	w	83-87	5(5)	NA	NA	50.00	50.00	861015	4
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870106	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870106	2
Zinc	w	83-87	5(0)	NA	NA	66.00	159.00	840131	1
Phenols	w	73-74	10(0)	NA	NA	17.00	117.00	740211	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870106	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870106	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870106	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870106	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870106	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870106	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870106	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870106	2	19.00	19.00	12.73	0.0026	NA
Phenols	w	740319	10	17.00	26.20	32.10	0.0049	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Anacostia River	<u>Station</u>	101017
<u>R. Mile</u>	97-2.8	<u>Agency</u>	DCCRA
<u>Location</u>	11th Street Bridge, Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Phenols	w	73-74	10(0)	NA	NA	16.50	101.00	740211	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Phenols	w	740319	10	16.50	25.10	26.85	0.0047	NA

<u>River</u>	Anacostia River	<u>Station</u>	TFD01
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Fort Davis, Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Cadmium	w	84-87	4(3)	NA	NA	5.00	13.00	840130	1
Chromium	w	84-87	4(3)	NA	NA	10.00	27.00	840130	1
Copper	w	84-87	4(4)	NA	NA	10.00	25.00	870112	1
Lead	w	84-87	4(3)	NA	NA	50.00	50.00	861020	3
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870112	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Zinc	w	84-87	4(1)	NA	NA	110.50	201.00	840130	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870112	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870112	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870112	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870112	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870112	2	34.00	34.00	22.63	0.6946	NA
Mercury	w	870112	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870112	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870112	2	59.00	59.00	57.98	0.0080	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Anacostia River	<u>Station</u>	TFS01
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Fort Stanton, Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Cadmium	w	84-87	4(4)	NA	NA	5.00	5.00	861020	3
Chromium	w	84-87	4(3)	NA	NA	10.00	10.00	861020	3
Copper	w	84-87	4(3)	NA	NA	11.00	25.00	870112	1
Lead	w	84-87	4(3)	NA	NA	50.00	50.00	861020	3
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870112	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Zinc	w	84-87	4(1)	NA	NA	110.50	155.00	840130	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870112	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870112	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870112	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870112	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870112	2	28.50	28.50	30.41	0.5822	NA
Mercury	w	870112	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870112	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870112	2	95.50	95.50	6.36	0.0130	NA

<u>River</u>	Anacostia River	<u>Station</u>	101019
<u>R. Mile</u>	97-1.1	<u>Agency</u>	DCCRA
<u>Location</u>	Washington Channel, Mile 97.1.1, Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Copper	w	80-81	14(7)	NA	NA	50.00	289.00	810911	1
Phenols	w	73-74	9(0)	NA	NA	10.00	34.00	740211	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Copper	w	811110	12	50.00	91.08	85.88	0.0386	NA
Phenols	w	740319	9	10.00	12.56	8.11	0.0029	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Anacostia River	<u>Station</u>	PWC04
<u>R. Mile</u>	94.25-1.1	<u>Agency</u>	DCCRA
<u>Location</u>	Washington Channel, Mile 97-1.1, Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870106	2
Cadmium	w	83-87	5(5)	NA	NA	5.00	5.00	861015	4
Chromium	w	83-87	5(5)	NA	NA	10.00	10.00	861015	4
Copper	w	83-87	5(4)	NA	NA	10.00	25.00	870106	1
Lead	w	83-87	5(5)	NA	NA	50.00	50.00	861015	4
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870106	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870106	2
Zinc	w	83-87	5(1)	NA	NA	76.00	203.00	840131	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870106	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870106	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870106	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870106	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870106	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870106	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870106	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870106	2	13.00	13.00	9.90	0.0018	NA

<u>River</u>	Anacostia River	<u>Station</u>	TTX27
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Texas Avenue, Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Cadmium	w	84-87	4(4)	NA	NA	5.00	5.00	861020	3
Chromium	w	84-87	4(4)	NA	NA	10.00	10.00	861020	3
Copper	w	84-87	4(4)	NA	NA	10.00	25.00	870112	1
Lead	w	84-87	4(4)	NA	NA	50.00	50.00	861020	3
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870112	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Zinc	w	84-87	4(1)	NA	NA	117.50	152.00	840130	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870112	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870112	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870112	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870112	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870112	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870112	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870112	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870112	2	104.50	104.50	6.36	0.0142	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Anacostia River	<u>Station</u>	ANA21
<u>R. Mile</u>	94.25-2	<u>Agency</u>	DCCRA
<u>Location</u>	South Capitol Street Bridge, Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870106	2
Cadmium	w	83-87	6(6)	NA	NA	5.00	5.00	861015	5
Chromium	w	83-87	6(6)	NA	NA	10.00	10.00	861015	5
Copper	w	80-87	33(20)	-8.64	0.040	50.00	540.00	810318	1
Lead	w	83-87	6(6)	NA	NA	50.00	50.00	861015	5
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870106	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870106	2
Zinc	w	83-87	6(2)	NA	NA	62.00	165.00	840131	1
Phenols	w	73-74	9(0)	NA	NA	13.00	106.00	740211	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Data	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870106	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870106	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870106	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870106	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870106	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870106	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870106	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870106	2	12.50	12.50	10.61	0.0017	NA
Phenols	w	740319	9	13.00	24.00	30.89	0.0037	NA

<u>River</u>	Potomac River	<u>Station</u>	ANA29
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Potomac Confluence, Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870106	2
Cadmium	w	83-87	5(5)	NA	NA	5.00	5.00	861015	4
Chromium	w	83-87	5(5)	NA	NA	10.00	10.00	861015	4
Copper	w	83-87	5(4)	NA	NA	10.00	25.00	870106	1
Lead	w	83-87	5(5)	NA	NA	50.00	50.00	861015	4
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870106	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870106	2
Zinc	w	83-87	5(1)	NA	NA	46.00	98.00	840131	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Data	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870106	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870106	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870106	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870106	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870106	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870106	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870106	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870106	2	13.00	13.00	9.90	0.0018	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	PMS29
<u>R. Mile</u>	92.5	<u>Agency</u>	DCCRA
<u>Location</u>	Hains Point, Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870105	2
Cadmium	w	83-87	6(6)	NA	NA	5.00	5.00	861014	5
Chromium	w	83-87	6(6)	NA	NA	10.00	10.00	861014	5
Copper	w	83-87	6(4)	NA	NA	10.00	25.00	870105	1
Lead	w	83-87	7(6)	NA	NA	50.00	50.00	861014	5
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870105	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870105	2
Zinc	w	83-87	6(2)	NA	NA	103.00	1590.00	831012	1
Phenols	w	73-74	7(0)	NA	NA	7.00	8.00	740318	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870105	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870105	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870105	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870105	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870105	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870105	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870105	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870105	2	12.50	12.50	10.61	0.0017	NA
Phenols	w	740318	6	7.00	6.50	1.38	0.0020	NA

<u>River</u>	Potomac River	<u>Station</u>	101008
<u>R. Mile</u>	97.4	<u>Agency</u>	DCCRA
<u>Location</u>	Geisboro Point, Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Copper	w	80-81	16(10)	NA	NA	50.00	370.00	810422	1
Phenols	w	73-74	7(0)	NA	NA	9.00	14.00	740114	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Copper	w	811111	14	50.00	81.79	99.90	0.0386	NA
Phenols	w	740318	6	9.00	8.50	3.78	0.0026	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	TOR01
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Oxon Run Behind Eastgate Mall, Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Cadmium	w	83-87	5(4)	NA	NA	5.00	7.00	840130	1
Chromium	w	83-87	5(5)	NA	NA	10.00	10.00	861020	4
Copper	w	83-87	5(3)	NA	NA	13.00	25.00	870112	1
Lead	w	83-87	5(5)	NA	NA	50.00	50.00	861020	4
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870112	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870112	2
Zinc	w	83-87	5(1)	NA	NA	152.00	310.00	861020	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870112	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870112	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870112	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870112	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870112	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870112	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870112	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870112	2	205.00	205.00	148.49	0.0279	NA

<u>River</u>	Four Mile Run	<u>Station</u>	1AFOU004.22
<u>R. Mile</u>	004.22	<u>Agency</u>	VASWCB
<u>Location</u>	Route 244 Bridge, Arlington Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-79	6(5)	-0.42	0.100	2.00	3.00	751027	1
Cadmium	w	75-79	6(6)	0.00	0.100	10.00	10.00	790411	3
Chromium	w	74-79	7(7)	0.00	0.100	10.00	10.00	790411	3
Copper	w	74-79	7(7)	0.00	0.100	10.00	10.00	790411	3
Lead	w	74-79	7(1)	-2.99	0.360	19.00	27.99	770404	1
Mercury	w	74-78	5(4)	NA	NA	0.50	0.50	771021	3
Zinc	w	74-79	7(2)	-1.66	0.500	10.00	49.99	771021	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790411	3	2.00	1.67	0.58	NA	858
Cadmium	w	790411	3	10.00	10.00	0.00	0.9862	NA
Chromium	w	790411	3	10.00	10.00	0.00	0.0572	NA
Copper	w	790411	3	10.00	10.00	0.00	0.0077	NA
Lead	w	790411	3	19.00	17.00	8.19	0.3881	NA
Mercury	w	781025	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	790411	3	10.00	16.67	11.55	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Four Mile Run	<u>Station</u> 1AFOU001.92
<u>R. Mile</u>	001.92	<u>Agency</u> VASWCB
<u>Location</u>	Route 120 Bridge, Arlington Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-86	4(2)	NA	NA	3.85	10.40	860811	1
Arsenic	w	77-86	7(7)	NA	NA	1.00	2.00	781127	3
Beryllium	w	83-86	2(1)	NA	NA	1.55	2.10	860811	1
Cadmium	s	80-86	4(3)	NA	NA	1.08	1.90	810414	1
Cadmium	w	75-86	8(6)	NA	NA	10.00	10.00	810908	3
Chromium	w	75-86	8(6)	NA	NA	10.00	20.00	810908	1
Chromium	s	80-86	4(0)	NA	NA	14.25	31.10	860811	1
Copper	s	80-86	4(0)	NA	NA	21.95	70.50	860811	1
Copper	w	75-86	8(6)	NA	NA	10.00	10.00	860714	5
Lead	s	80-86	4(0)	NA	NA	47.95	166.00	860811	1
Lead	w	75-86	8(1)	NA	NA	20.00	78.99	770318	1
Mercury	s	80-86	4(1)	NA	NA	0.13	0.25	860811	1
Mercury	w	75-86	7(4)	NA	NA	0.30	1.90	750515	1
Nickel	s	80-86	4(0)	NA	NA	16.45	24.90	860811	1
Nickel	w	79-86	4(2)	NA	NA	10.00	100.00	860714	1
Selenium	w	83-86	2(0)	NA	NA	3.60	6.20	860811	1
Zinc	s	80-86	3(0)	NA	NA	65.20	373.00	860811	1
Zinc	w	75-86	8(3)	NA	NA	39.99	69.99	770318	1
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830606	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860811	1	10.40	10.40	0.00	NA	NA
Arsenic	w	860714	1	1.00	1.00	0.00	NA	429
Beryllium	w	860811	1	2.10	2.10	0.00	0.1201	NA
Cadmium	s	860811	1	1.87	1.87	0.00	NA	NA
Cadmium	w	860714	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	860714	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860811	1	31.10	31.10	0.00	NA	NA
Copper	s	860811	1	70.50	70.50	0.00	NA	NA
Copper	w	860714	1	10.00	10.00	0.00	0.0077	NA
Lead	s	860811	1	166.00	166.00	0.00	NA	NA
Lead	w	860714	1	5.00	5.00	0.00	0.1021	NA
Mercury	s	860811	1	0.25	0.25	0.00	NA	NA
Mercury	w	860714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860811	1	24.90	24.90	0.00	NA	NA
Nickel	w	860714	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860811	1	6.20	6.20	0.00	0.0591	NA
Zinc	s	860811	1	373.00	373.00	0.00	NA	NA
Zinc	w	860714	1	10.00	10.00	0.00	0.0014	NA
Aldrin	w	830606	1	0.10	0.10	0.00	0.0953	33

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Four Mile Run	<u>Station</u>	1AFOU001.19
<u>R. Mile</u>	001.19	<u>Agency</u>	VASWCB
<u>Location</u>	Arlington Ridge Road Bridge, Arlington Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-73	3(2)	NA	NA	5.00	6.00	730802	1
Cadmium	w	72-73	5(5)	NA	NA	10.00	10.00	720802	4
Chromium	w	72-74	10(8)	0.00	0.500	10.00	19.99	721005	1
Copper	w	72-74	10(4)	5.00	0.270	10.00	39.99	721005	1
Lead	w	72-74	9(1)	NA	NA	10.00	209.90	721005	1
Mercury	w	72-74	10(10)	0.00	0.500	0.50	0.50	740521	10
Zinc	w	72-74	10(3)	5.00	0.270	19.99	139.90	721005	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730802	1	6.00	6.00	0.00	NA	2574
Cadmium	w	730802	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	740521	3	10.00	10.00	0.00	0.0572	NA
Copper	w	740521	3	10.00	13.33	5.77	0.0077	NA
Lead	w	740521	3	10.00	23.33	23.09	0.2043	NA
Mercury	w	740521	3	0.50	0.50	0.00	0.0071	NA
Zinc	w	740521	3	19.99	26.66	11.55	0.0027	NA

<u>River</u>	Four Mile Run	<u>Station</u>	1AFOU000.63
<u>R. Mile</u>	000.63	<u>Agency</u>	VASWCB
<u>Location</u>	Arlington Sewage Treatment Plant, Arlington Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-73	3(1)	NA	NA	5.00	6.00	730802	1
Cadmium	w	72-73	5(4)	NA	NA	10.00	10.00	720802	4
Chromium	w	72-74	10(6)	0.00	0.500	10.00	19.99	731206	1
Copper	w	72-74	10(1)	20.00	0.150	24.99	49.99	740521	2
Lead	w	72-74	9(3)	NA	NA	10.00	19.99	721005	4
Mercury	w	72-74	10(9)	0.00	0.500	0.50	0.80	730802	1
Zinc	w	72-74	10(0)	0.00	0.500	64.99	89.99	730117	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730802	1	6.00	6.00	0.00	NA	2574
Cadmium	w	730802	1	2.00	2.00	0.00	0.1971	NA
Chromium	w	740521	3	10.00	13.33	5.77	0.0572	NA
Copper	w	740521	3	49.99	43.32	11.55	0.0386	NA
Lead	w	740521	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740521	3	0.50	0.60	0.17	0.0071	NA
Zinc	w	740521	3	69.99	59.99	17.32	0.0095	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Four Mile Run	<u>Station</u> 1AFOU000.19
<u>R. Mile</u>	000.19	<u>Agency</u> VASWCB
<u>Location</u>	George Washington Parkway Bridge, Arlington Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-82	3(1)	NA	NA	6.80	8.30	800623	1
Arsenic	w	75-86	10(5)	-0.50	0.060	1.50	3.00	751027	1
Beryllium	w	83-83	1(1)	NA	NA	1.00	1.00	830606	1
Cadmium	s	80-82	3(2)	NA	NA	0.30	0.33	810414	1
Cadmium	w	75-86	11(10)	0.00	0.100	10.00	10.00	810908	5
Chromium	w	74-86	11(6)	0.00	0.100	10.00	779.90	741212	1
Chromium	s	80-82	3(0)	NA	NA	26.90	27.40	800623	1
Copper	s	80-82	3(0)	NA	NA	56.80	59.40	800623	1
Copper	w	74-86	12(7)	0.00	0.060	10.00	20.00	790411	2
Lead	s	80-82	3(0)	NA	NA	150.00	158.00	800623	1
Lead	w	74-86	12(2)	-8.50	0.360	12.50	116.00	781127	1
Mercury	s	80-82	3(0)	NA	NA	0.14	0.21	820419	1
Mercury	w	74-86	10(7)	-0.05	0.270	0.50	2.00	750515	1
Nickel	s	80-82	3(0)	NA	NA	20.80	26.90	800623	1
Nickel	w	79-86	4(2)	NA	NA	15.00	100.00	860714	1
Selenium	w	83-83	1(1)	NA	NA	1.00	1.00	830606	1
Zinc	s	80-82	3(0)	NA	NA	149.00	162.00	800623	1
Zinc	w	74-86	12(2)	6.25	0.360	30.00	419.90	741212	1
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830606	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	820419	1	6.80	6.80	0.00	NA	NA
Arsenic	w	860714	1	1.00	1.00	0.00	NA	429
Beryllium	w	830606	1	1.00	1.00	0.00	0.0572	NA
Cadmium	s	820419	1	0.30	0.30	0.00	NA	NA
Cadmium	w	860714	1	4.00	4.00	0.00	0.3945	NA
Chromium	w	860714	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	820419	1	26.90	26.90	0.00	NA	NA
Copper	s	820419	1	40.90	40.90	0.00	NA	NA
Copper	w	860714	1	10.00	10.00	0.00	0.0077	NA
Lead	s	820419	1	150.00	150.00	0.00	NA	NA
Lead	w	860714	1	2.00	2.00	0.00	0.0409	NA
Mercury	s	820419	1	0.21	0.21	0.00	NA	NA
Mercury	w	860714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	820419	1	20.80	20.80	0.00	NA	NA
Nickel	w	860714	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	830606	1	1.00	1.00	0.00	0.0095	NA
Zinc	s	820419	1	136.00	136.00	0.00	NA	NA
Zinc	w	860714	1	10.00	10.00	0.00	0.0014	NA
Aldrin	w	830606	1	0.10	0.10	0.00	0.0953	33

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Four Mile Run	<u>Station</u>	01652500
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Alexandria, Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	s	77-77	1(0)	NA	NA	10.00	10.00	770831	1
Chromium	s	77-77	1(0)	NA	NA	20.00	20.00	770831	1
Copper	s	77-77	1(1)	NA	NA	10.00	10.00	770831	1
Lead	s	77-77	1(1)	NA	NA	10.00	10.00	770831	1
Zinc	s	77-77	1(0)	NA	NA	40.00	40.00	770831	1
Aldrin	s	77-77	1(0)	NA	NA	0.10	0.10	770831	1
Chlordane-dwt	s	77-77	1(0)	NA	NA	4.00	4.00	770831	1
Dieldrin	s	77-77	1(0)	NA	NA	0.60	0.60	770831	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	s	770831	1	10.00	10.00	0.00	NA	NA
Chromium	s	770831	1	20.00	20.00	0.00	NA	NA
Copper	s	770831	1	10.00	10.00	0.00	NA	NA
Lead	s	770831	1	10.00	10.00	0.00	NA	NA
Zinc	s	770831	1	40.00	40.00	0.00	NA	NA
Aldrin	s	770831	1	0.10	0.10	0.00	NA	NA
Chlordane-dwt	s	770831	1	4.00	4.00	0.00	NA	NA
Dieldrin	s	770831	1	0.60	0.60	0.00	NA	NA

<u>River</u>	Four Mile Run	<u>Station</u>	PMS33
<u>R. Mile</u>	91.5	<u>Agency</u>	DCCRA
<u>Location</u>	Four Mile, Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	83-83	1(1)	NA	NA	5.00	5.00	831013	1
Chromium	w	83-83	1(1)	NA	NA	10.00	10.00	831013	1
Copper	w	83-83	1(0)	NA	NA	12.00	12.00	831013	1
Lead	w	83-83	1(1)	NA	NA	50.00	50.00	831013	1
Zinc	w	83-83	1(0)	NA	NA	704.00	704.00	831013	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	831013	1	5.00	5.00	0.00	0.4931	NA
Chromium	w	831013	1	10.00	10.00	0.00	0.0572	NA
Copper	w	831013	1	12.00	12.00	0.00	0.0093	NA
Lead	w	831013	1	50.00	50.00	0.00	1.0214	NA
Zinc	w	831013	1	704.00	704.00	0.00	0.0959	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	PMS37
<u>R. Mile</u>	90.5	<u>Agency</u>	DCCRA
<u>Location</u>	Above Sewage Treatment Plant, Mile 96.1, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870105	2
Cadmium	w	83-87	5(5)	NA	NA	5.00	5.00	861014	4
Chromium	w	83-87	5(5)	NA	NA	10.00	10.00	861014	4
Copper	w	83-87	5(4)	NA	NA	10.00	25.00	870105	1
Lead	w	83-87	5(5)	NA	NA	50.00	50.00	861014	4
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870105	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870105	2
Zinc	w	83-87	5(2)	NA	NA	103.00	230.00	831013	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870105	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870105	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870105	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870105	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870105	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870105	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870105	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870105	2	12.50	12.50	10.61	0.0017	NA

<u>River</u>	Potomac River	<u>Station</u>	101009
<u>R. Mile</u>	96.1	<u>Agency</u>	DCCRA
<u>Location</u>	Above Sewage Treatment Plant, Mile 96.1, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Copper	w	80-81	32(16)	NA	NA	50.00	210.00	810220	1
Phenols	w	73-74	7(0)	NA	NA	10.00	20.00	740114	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Copper	w	811117	29	50.00	40.00	39.78	0.0386	NA
Phenols	w	740318	6	9.00	10.17	5.46	0.0026	NA

<u>River</u>	Potomac River	<u>Station</u>	101010
<u>R. Mile</u>	95.6	<u>Agency</u>	DCCRA
<u>Location</u>	Opposite Sewage Treatment Plant, Mile 95.6, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Copper	w	80-81	29(11)	NA	NA	40.00	2440.00	810915	1
Phenols	w	73-74	7(0)	NA	NA	9.00	15.00	740114	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Copper	w	811117	27	40.00	136.41	464.46	0.0309	NA
Phenols	w	740318	6	8.00	8.67	4.23	0.0023	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	101011
<u>R. Mile</u>	95.3	<u>Agency</u>	DCCRA
<u>Location</u>	Below Sewage Treatment Plant, Mile 95.3, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Phenols	w	73-74	7(0)	NA	NA	7.00	10.00	740318	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Phenols	w	740318	6	7.00	7.67	1.86	0.0020	NA

<u>River</u>	Potomac River	<u>Station</u>	PMS44
<u>R. Mile</u>	88.75	<u>Agency</u>	DCCRA
<u>Location</u>	Woodrow Wilson Bridge, Washington, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870105	2
Cadmium	w	83-87	5(5)	NA	NA	5.00	5.00	861014	4
Chromium	w	83-87	5(5)	NA	NA	10.00	10.00	861014	4
Copper	w	80-87	37(21)	-8.64	0.020	40.00	160.00	810422	2
Lead	w	83-87	5(5)	NA	NA	50.00	50.00	861014	4
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870105	2
Selenium	w	86-87	2(2)	NA	NA	5.00	5.00	870105	2
Zinc	w	83-87	5(1)	NA	NA	63.00	125.00	840123	1
Phenols	w	73-74	7(0)	NA	NA	8.00	11.00	740318	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870105	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870105	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870105	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870105	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870105	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870105	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870105	2	5.00	5.00	0.00	0.0477	NA
Zinc	w	870105	2	13.50	13.50	9.19	0.0018	NA
Phenols	w	740318	6	8.00	7.67	2.94	0.0023	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	XFB7677
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	0.1 mi. E. Jones Pt. under Br. in mid-channel		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	81-81	4(1)	NA	NA	0.10	0.16	811021	1
Cadmium	f	81-81	4(0)	NA	NA	0.14	0.41	811021	1
Chromium	w	81-81	4(2)	NA	NA	0.75	1.50	811021	1
Copper	f	81-81	4(1)	NA	NA	0.79	7.50	811021	1
Lead	f	81-81	4(1)	NA	NA	1.30	2.80	811021	1
Mercury	f	81-81	4(0)	NA	NA	0.06	0.19	811021	1
Zinc	f	81-81	4(0)	NA	NA	16.00	28.00	811021	1
Alpha BHC	f	81-81	4(1)	NA	NA	0.01	0.01	811021	2
Gamma BHC(Lindane)	f	81-81	4(4)	NA	NA	0.00	0.00	811021	4
Chlordane	f	81-81	4(0)	NA	NA	0.12	0.17	811021	1
Dieldrin	f	81-81	4(0)	NA	NA	0.01	0.02	811021	1
Endrin	f	81-81	4(4)	NA	NA	0.00	0.00	811021	4
Heptachlor Epoxida	f	81-81	4(4)	NA	NA	0.00	0.00	811021	4
PCB's	f	81-81	4(0)	NA	NA	0.25	0.45	811021	1
P,P'DDD	f	81-81	4(0)	NA	NA	0.03	0.10	811021	1
P,P'DDE	f	81-81	4(0)	NA	NA	0.02	0.04	811021	1
P,P'DDT	f	81-81	4(4)	NA	NA	0.00	0.00	811021	4
Toxaphene	f	81-81	4(4)	NA	NA	0.01	0.01	811021	4

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	811021	4	0.10	0.10	0.05	NA	139
Cadmium	f	811021	4	0.14	0.19	0.16	0.0448	NA
Chromium	w	811021	4	0.75	0.78	0.61	0.0043	NA
Copper	f	811021	4	0.79	2.27	3.51	0.0020	NA
Lead	f	811021	4	1.30	1.48	1.12	0.0863	NA
Mercury	f	811021	4	0.06	0.08	0.08	0.0028	NA
Zinc	f	811021	4	16.00	17.50	7.59	0.0071	NA
Alpha BHC	f	811021	4	0.01	0.00	0.00	NA	6
Gamma BHC(Lindane)	f	811021	4	0.00	0.00	0.00	NA	NA
Chlordane	f	811021	4	0.12	0.11	0.06	0.2183	18
Dieldrin	f	811021	4	0.01	0.01	0.01	NA	22
Endrin	f	811021	4	0.00	0.00	0.00	NA	NA
Heptachlor Epoxida	f	811021	4	0.00	0.00	0.00	0.0015	NA
PCB's	f	811021	4	0.25	0.25	0.18	NA	99
P,P'DDD	f	811021	4	0.03	0.04	0.04	NA	NA
P,P'DDE	f	811021	4	0.02	0.02	0.01	NA	NA
P,P'DDT	f	811021	4	0.00	0.00	0.00	NA	NA
Toxaphene	f	811021	4	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Cameron Run	<u>Station</u> 1ACAM000.95
<u>R. Mile</u>	000.95	<u>Agency</u> VASWCB
<u>Location</u>	Gaging Station behind Cameron Station, Alexandria, Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-86	4(2)	NA	NA	3.20	10.20	860811	1
Arsenic	w	77-86	9(7)	-0.50	0.270	1.00	2.00	781127	4
Beryllium	w	83-86	2(1)	NA	NA	1.55	2.10	860811	1
Cadmium	s	80-86	4(4)	NA	NA	0.18	0.20	860811	2
Cadmium	w	75-86	10(8)	0.00	0.270	10.00	10.00	810908	5
Chromium	w	74-86	11(10)	0.00	0.270	10.00	10.00	810908	5
Chromium	s	80-86	4(0)	NA	NA	5.70	32.70	860811	1
Copper	s	80-86	4(0)	NA	NA	10.80	32.70	860811	1
Copper	w	74-86	11(10)	0.00	0.270	10.00	19.99	741212	1
Lead	s	80-86	4(0)	NA	NA	30.45	63.40	860811	1
Lead	w	74-86	11(3)	-12.50	0.500	8.00	39.00	781127	1
Mercury	s	80-86	4(3)	NA	NA	0.08	0.20	810414	1
Mercury	w	74-86	9(8)	NA	NA	0.50	0.50	771031	4
Nickel	s	80-86	4(0)	NA	NA	8.20	16.40	860811	1
Nickel	w	79-86	4(3)	NA	NA	10.00	100.00	860714	1
Selenium	w	83-86	2(1)	NA	NA	2.55	4.10	860811	1
Zinc	s	80-86	4(0)	NA	NA	32.40	123.00	860811	1
Zinc	w	74-86	11(4)	-9.99	0.500	10.00	50.00	780419	1
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830606	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860811	1	10.20	10.20	0.00	NA	NA
Arsenic	w	860714	1	1.00	1.00	0.00	NA	429
Beryllium	w	860811	1	2.10	2.10	0.00	0.1201	NA
Cadmium	s	860811	1	0.20	0.20	0.00	NA	NA
Cadmium	w	860714	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	860714	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860811	1	32.70	32.70	0.00	NA	NA
Copper	s	860811	1	32.70	32.70	0.00	NA	NA
Copper	w	860714	1	10.00	10.00	0.00	0.0077	NA
Lead	s	860811	1	63.40	63.40	0.00	NA	NA
Lead	w	860714	1	6.00	6.00	0.00	0.1226	NA
Mercury	s	860811	1	0.09	0.09	0.00	NA	NA
Mercury	w	860714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860811	1	16.40	16.40	0.00	NA	NA
Nickel	w	860714	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860811	1	4.10	4.10	0.00	0.0391	NA
Zinc	s	860811	1	123.00	123.00	0.00	NA	NA
Zinc	w	860714	1	10.00	10.00	0.00	0.0014	NA
Aldrin	w	830606	1	0.10	0.10	0.00	0.0953	33

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Cameron Run	<u>Station</u>	01653000
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Alexandria, Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	s	77-77	1(1)	NA	NA	10.00	10.00	770830	1
Chromium	s	77-77	1(1)	NA	NA	10.00	10.00	770830	1
Copper	s	77-77	1(1)	NA	NA	10.00	10.00	770830	1
Lead	s	77-77	1(1)	NA	NA	10.00	10.00	770830	1
Zinc	s	77-77	1(0)	NA	NA	30.00	30.00	770830	1
Aldrin	s	77-77	1(0)	NA	NA	0.30	0.30	770830	1
Chlordane-dwt	s	77-77	1(0)	NA	NA	1.00	1.00	770830	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	s	770830	1	10.00	10.00	0.00	NA	NA
Chromium	s	770830	1	10.00	10.00	0.00	NA	NA
Copper	s	770830	1	10.00	10.00	0.00	NA	NA
Lead	s	770830	1	10.00	10.00	0.00	NA	NA
Zinc	s	770830	1	30.00	30.00	0.00	NA	NA
Aldrin	s	770830	1	0.30	0.30	0.00	NA	NA
Chlordane-dwt	s	770830	1	1.00	1.00	0.00	NA	NA

<u>River</u>	Potomac River	<u>Station</u>	PMS51
<u>R. Mile</u>	87.	<u>Agency</u>	DCCRA
<u>Location</u>	Rosier Bluff, 100 Meters W. Of Buoy, D.C.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-87	2(2)	NA	NA	5.00	5.00	870105	2
Cadmium	w	83-87	5(5)	NA	NA	5.00	5.00	861014	4
Chromium	w	83-87	5(5)	NA	NA	10.00	10.00	861014	4
Copper	w	83-87	5(4)	NA	NA	10.00	25.00	870105	1
Lead	w	83-87	5(5)	NA	NA	50.00	50.00	861014	4
Mercury	w	86-87	2(2)	NA	NA	0.20	0.20	870105	2
Selenium	w	86-87	2(2)	NA	NA	4.50	5.00	861014	1
Zinc	w	83-87	5(1)	NA	NA	47.00	119.00	840123	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	870105	2	5.00	5.00	0.00	NA	2145
Cadmium	w	870105	2	3.50	3.50	2.12	0.3452	NA
Chromium	w	870105	2	7.50	7.50	3.54	0.0429	NA
Copper	w	870105	2	17.50	17.50	10.61	0.0135	NA
Lead	w	870105	2	27.50	27.50	31.82	0.5618	NA
Mercury	w	870105	2	0.20	0.20	0.00	0.0029	NA
Selenium	w	870105	2	4.50	4.50	0.71	0.0429	NA
Zinc	w	870105	2	14.50	14.50	7.78	0.0020	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Hunting Creek	<u>Station</u>	1AHUT001.72
<u>R. Mile</u>	001.72	<u>Agency</u>	VASWCB
<u>Location</u>	Route 611/241 Bridge above STP, Alexandria, Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-73	3(1)	NA	NA	5.00	10.99	730802	1
Cadmium	w	72-73	5(4)	NA	NA	10.00	10.00	720802	4
Chromium	w	72-74	10(6)	0.00	0.500	10.00	10.00	740521	10
Copper	w	72-74	10(6)	0.00	0.500	10.00	19.99	731206	2
Lead	w	72-74	9(3)	NA	NA	19.99	69.99	730802	1
Mercury	w	72-74	10(10)	0.00	0.500	0.50	0.50	740521	10
Zinc	w	72-74	10(5)	0.00	0.500	10.00	159.90	731206	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730802	1	10.99	10.99	0.00	NA	4715
Cadmium	w	730802	1	2.00	2.00	0.00	0.1971	NA
Chromium	w	740521	3	10.00	10.00	0.00	0.0572	NA
Copper	w	740521	3	10.00	13.33	5.77	0.0077	NA
Lead	w	740521	3	19.99	33.33	32.14	0.4084	NA
Mercury	w	740521	3	0.50	0.50	0.00	0.0071	NA
Zinc	w	740521	3	59.99	76.63	76.32	0.0082	NA

<u>River</u>	Hunting Creek	<u>Station</u>	1AHUT000.57
<u>R. Mile</u>	000.57	<u>Agency</u>	VASWCB
<u>Location</u>	Alexandria Sewage Treatment Plant, Alexandria, Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-73	3(1)	NA	NA	5.00	6.00	730802	1
Cadmium	w	72-73	5(4)	NA	NA	10.00	10.00	720802	4
Chromium	w	72-74	10(1)	-5.00	0.500	10.00	49.99	721005	1
Copper	w	72-74	10(1)	20.00	0.500	54.99	109.90	730802	1
Lead	w	72-74	9(2)	NA	NA	29.99	109.90	720508	1
Mercury	w	72-74	10(9)	0.00	0.500	0.50	0.50	740521	10
Zinc	w	72-74	10(0)	-34.96	0.150	114.90	250.00	730802	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730802	1	6.00	6.00	0.00	NA	2574
Cadmium	w	730802	1	7.00	7.00	0.00	0.6902	NA
Chromium	w	740521	3	10.00	18.99	18.25	0.0572	NA
Copper	w	740521	3	79.99	83.29	25.12	0.0618	NA
Lead	w	740521	3	10.00	33.33	40.41	0.2043	NA
Mercury	w	740521	3	0.50	0.50	0.00	0.0071	NA
Zinc	w	740521	3	209.90	169.96	105.82	0.0286	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Hunting Creek	<u>Station</u>	1AHUT000.01
<u>R. Mile</u>	000.01	<u>Agency</u>	VASWCB
<u>Location</u>	George Washington Memorial Parkway, Alexandria, Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-86	4(0)	NA	NA	7.20	19.00	860811	1
Arsenic	w	75-86	10(6)	-0.50	0.060	2.00	3.00	751027	1
Beryllium	w	83-86	2(1)	NA	NA	1.55	2.10	860811	1
Cadmium	s	80-86	4(0)	NA	NA	0.62	1.90	820419	1
Cadmium	w	75-86	11(10)	0.00	0.100	10.00	10.00	810908	5
Chromium	w	74-86	12(10)	0.00	0.100	10.00	20.00	810908	1
Chromium	s	80-86	4(0)	NA	NA	40.25	52.10	820419	1
Copper	s	80-86	4(0)	NA	NA	44.35	70.50	820419	1
Copper	w	74-86	12(9)	0.00	0.100	10.00	19.99	741212	1
Lead	s	80-86	4(0)	NA	NA	158.00	370.00	820419	1
Lead	w	74-86	12(0)	-3.50	0.360	11.00	69.00	781127	1
Mercury	s	80-86	4(1)	NA	NA	0.15	0.45	820419	1
Mercury	w	74-86	10(10)	-0.05	0.270	0.50	0.50	771031	5
Nickel	s	80-86	4(0)	NA	NA	20.75	30.70	820419	1
Nickel	w	79-86	4(2)	NA	NA	10.00	100.00	860714	1
Selenium	w	83-86	2(1)	NA	NA	1.55	2.10	860811	1
Zinc	s	80-86	4(0)	NA	NA	191.00	398.00	820419	1
Zinc	w	74-86	12(0)	-6.25	0.360	34.99	60.00	781127	2
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830606	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860811	1	19.00	19.00	0.00	NA	NA
Arsenic	w	860714	1	1.00	1.00	0.00	NA	429
Beryllium	w	860811	1	2.10	2.10	0.00	0.1201	NA
Cadmium	s	860811	1	0.42	0.42	0.00	NA	NA
Cadmium	w	860714	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	860714	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860811	1	22.40	22.40	0.00	NA	NA
Copper	s	860811	1	27.40	27.40	0.00	NA	NA
Copper	w	860714	1	10.00	10.00	0.00	0.0077	NA
Lead	s	860811	1	82.30	82.30	0.00	NA	NA
Lead	w	860714	1	2.00	2.00	0.00	0.0409	NA
Mercury	s	860811	1	0.09	0.09	0.00	NA	NA
Mercury	w	860714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860811	1	14.80	14.80	0.00	NA	NA
Nickel	w	860714	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860811	1	2.10	2.10	0.00	0.0200	NA
Zinc	s	860811	1	112.00	112.00	0.00	NA	NA
Zinc	w	860714	1	20.00	20.00	0.00	0.0027	NA
Aldrin	w	830606	1	0.10	0.10	0.00	0.0953	33

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	232016
<u>R. Mile</u>	92.9	<u>Agency</u>	DCCRA
<u>Location</u>	Forte Foote, Md		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Phenols	w	73-74	8(0)	NA	NA	9.00	12.00	740318	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Phenols	w	740318	7	9.00	8.43	2.51	0.0026	NA

<u>River</u>	Potomac River	<u>Station</u>	232017
<u>R. Mile</u>	89.	<u>Agency</u>	DCCRA
<u>Location</u>	Fort Washington, Md		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Phenols	w	73-74	7(0)	NA	NA	8.00	12.00	740318	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Phenols	w	740318	6	8.00	8.33	3.39	0.0023	NA

<u>River</u>	Unnamed Tributary	<u>Station</u>	UQL0001
<u>R. Mile</u>	.10	<u>Agency</u>	MDOEP
<u>Location</u>	Access P-4A sludge disposal site (Mes Project).		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770504	1
Copper	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Lead	w	77-77	1(1)	NA	NA	0.50	0.50	770504	1
Mercury	w	77-77	1(1)	NA	NA	0.00	0.00	770504	1
Nickel	w	77-77	1(1)	NA	NA	0.20	0.20	770504	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	770504	1	0.05	0.05	0.00	0.0049	NA
Chromium	w	770504	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770504	1	0.05	0.05	0.00	NA	NA
Lead	w	770504	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	770504	1	0.00	0.00	0.00	NA	NA
Nickel	w	770504	1	0.20	0.20	0.00	0.0006	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Unnamed Tributary	<u>Station</u> UQT0001
<u>R. Mile</u>	.10	<u>Agency</u> MDOEP
<u>Location</u>	Access P-4A sludge disposal site (Mes Project).	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770504	1
Copper	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Lead	w	77-77	1(1)	NA	NA	0.50	0.50	770504	1
Mercury	w	77-77	1(1)	NA	NA	0.00	0.00	770504	1
Nickel	w	77-77	1(1)	NA	NA	0.20	0.20	770504	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	770504	1	0.05	0.05	0.00	0.0049	NA
Chromium	w	770504	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770504	1	0.05	0.05	0.00	NA	NA
Lead	w	770504	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	770504	1	0.00	0.00	0.00	NA	NA
Nickel	w	770504	1	0.20	0.20	0.00	0.0006	NA

<u>River</u>	Unnamed Tributary	<u>Station</u> UQW0001
<u>R. Mile</u>	.10	<u>Agency</u> MDOEP
<u>Location</u>	Access P-4A sludge disposal site (Mes Project).	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770504	1
Copper	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Lead	w	77-77	1(1)	NA	NA	0.50	0.50	770504	1
Mercury	w	77-77	1(1)	NA	NA	0.00	0.00	770504	1
Nickel	w	77-77	1(1)	NA	NA	0.20	0.20	770504	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	770504	1	0.05	0.05	0.00	0.0049	NA
Chromium	w	770504	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770504	1	0.05	0.05	0.00	NA	NA
Lead	w	770504	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	770504	1	0.00	0.00	0.00	NA	NA
Nickel	w	770504	1	0.20	0.20	0.00	0.0006	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Piscataway Creek	<u>Station</u> PIS0164
<u>R. Mile</u>	16.40	<u>Agency</u> MDOEP
<u>Location</u>	Piscataway Rd. crossing, .1 mile from Roaryville Rd.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770504	1
Copper	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Lead	w	77-77	1(1)	NA	NA	0.50	0.50	770504	1
Mercury	w	77-77	1(1)	NA	NA	0.00	0.00	770504	1
Nickel	w	77-77	1(1)	NA	NA	0.20	0.20	770504	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	770504	1	0.05	0.05	0.00	0.0049	NA
Chromium	w	770504	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770504	1	0.05	0.05	0.00	NA	NA
Lead	w	770504	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	770504	1	0.00	0.00	0.00	NA	NA
Nickel	w	770504	1	0.20	0.20	0.00	0.0006	NA

<u>River</u>	Piscataway Creek	<u>Station</u> PIS0148
<u>R. Mile</u>	15.10	<u>Agency</u> MDOEP
<u>Location</u>	Access P-4A Sludge Disposal Site	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770504	1
Copper	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Lead	w	77-77	1(1)	NA	NA	0.50	0.50	770504	1
Mercury	w	77-77	1(1)	NA	NA	0.00	0.00	770504	1
Nickel	w	77-77	1(1)	NA	NA	0.20	0.20	770504	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	770504	1	0.05	0.05	0.00	0.0049	NA
Chromium	w	770504	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770504	1	0.05	0.05	0.00	NA	NA
Lead	w	770504	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	770504	1	0.00	0.00	0.00	NA	NA
Nickel	w	770504	1	0.20	0.20	0.00	0.0006	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Piscataway Creek	<u>Station</u>	PIS0133
<u>R. Mile</u>	13.30	<u>Agency</u>	MDOEP
<u>Location</u>	USS Navel Reservation Rd. crossing, (access Dangerfield Rd.)		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770504	1
Copper	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Lead	w	77-77	1(1)	NA	NA	0.50	0.50	770504	1
Mercury	w	77-77	1(1)	NA	NA	0.00	0.00	770504	1
Nickel	w	77-77	1(1)	NA	NA	0.20	0.20	770504	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	770504	1	0.05	0.05	0.00	0.0049	NA
Chromium	w	770504	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770504	1	0.05	0.05	0.00	NA	NA
Lead	w	770504	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	770504	1	0.00	0.00	0.00	NA	NA
Nickel	w	770504	1	0.20	0.20	0.00	0.0006	NA

<u>River</u>	Piscataway Creek	<u>Station</u>	PIS0099
<u>R. Mile</u>	9.90	<u>Agency</u>	MDOEP
<u>Location</u>	Brandywine Rd. crossing		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770504	1
Copper	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Lead	w	77-77	1(1)	NA	NA	0.50	0.50	770504	1
Mercury	w	77-77	1(1)	NA	NA	0.00	0.00	770504	1
Nickel	w	77-77	1(1)	NA	NA	0.20	0.20	770504	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	770504	1	0.05	0.05	0.00	0.0049	NA
Chromium	w	770504	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770504	1	0.05	0.05	0.00	NA	NA
Lead	w	770504	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	770504	1	0.00	0.00	0.00	NA	NA
Nickel	w	770504	1	0.20	0.20	0.00	0.0006	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Piscataway Creek	<u>Station</u> PIS0066
<u>R. Mile</u>	6.60	<u>Agency</u> MDOEP
<u>Location</u>	Unnamed Rd. crossing Crk. .1 mile from Floral Park Rd.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770504	1
Copper	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Lead	w	77-77	1(1)	NA	NA	0.50	0.50	770504	1
Mercury	w	77-77	1(1)	NA	NA	0.00	0.00	770504	1
Nickel	w	77-77	1(1)	NA	NA	0.20	0.20	770504	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	770504	1	0.05	0.05	0.00	0.0049	NA
Chromium	w	770504	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770504	1	0.05	0.05	0.00	NA	NA
Lead	w	770504	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	770504	1	0.00	0.00	0.00	NA	NA
Nickel	w	770504	1	0.20	0.20	0.00	0.0006	NA

<u>River</u>	Piscataway Creek	<u>Station</u> PIS0033
<u>R. Mile</u>	3.30	<u>Agency</u> MDOEP
<u>Location</u>	RT. 210 Crossing	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770504	1
Copper	w	77-77	1(1)	NA	NA	0.05	0.05	770504	1
Lead	w	77-77	1(1)	NA	NA	0.50	0.50	770504	1
Mercury	w	77-77	1(1)	NA	NA	0.00	0.00	770504	1
Nickel	w	77-77	1(1)	NA	NA	0.20	0.20	770504	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	770504	1	0.05	0.05	0.00	0.0049	NA
Chromium	w	770504	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770504	1	0.05	0.05	0.00	NA	NA
Lead	w	770504	1	0.50	0.50	0.00	0.0102	NA
Mercury	w	770504	1	0.00	0.00	0.00	NA	NA
Nickel	w	770504	1	0.20	0.20	0.00	0.0006	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Piscataway Creek	<u>Station</u>	01653650
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Near S. Piscataway, Prince Georges Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Copper	w	73-73	1(1)	NA	NA	20.00	20.00	731206	1
Zinc	w	73-73	1(0)	NA	NA	50.00	50.00	731206	1
Cyanide	w	73-73	2(0)	NA	NA	0.02	0.02	730308	1
Phenols	w	72-73	3(0)	NA	NA	1.00	4.00	721213	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Copper	w	731206	1	20.00	20.00	0.00	0.0155	NA
Zinc	w	731206	1	50.00	50.00	0.00	0.0068	NA
Cyanide	w	731206	2	0.02	0.02	0.01	NA	NA
Phenols	w	730308	3	1.00	2.00	1.73	0.0003	NA

<u>River</u>	Little Hunting Creek	<u>Station</u>	XFB2557
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Prince George Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	79-80	6(0)	NA	NA	1.15	2.50	800813	1
Cadmium	f	79-80	6(0)	NA	NA	0.10	0.19	790801	1
Chromium	f	79-80	6(0)	NA	NA	1.70	1.74	790801	1
Copper	f	79-80	6(0)	NA	NA	8.00	23.90	790801	1
Lead	f	79-80	6(0)	NA	NA	1.60	3.90	790801	1
Mercury	f	79-80	6(0)	NA	NA	0.11	0.14	790801	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	800813	3	2.10	2.17	0.31	NA	2925
Cadmium	f	800813	3	0.10	0.10	0.00	0.0320	NA
Chromium	f	800813	3	1.70	1.50	0.35	NA	NA
Copper	f	800813	3	7.40	6.60	2.50	0.0186	NA
Lead	f	800813	3	1.10	1.13	0.15	0.0730	NA
Mercury	f	800813	3	0.08	0.08	0.06	0.0037	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Little Hunting Creek	<u>Station</u>	1ALIF002.48
<u>R. Mile</u>	002.48	<u>Agency</u>	VASWCB
<u>Location</u>	Route 1 Bridge, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	77-78	3(3)	NA	NA	2.00	2.00	781127	3
Cadmium	w	75-78	4(4)	NA	NA	10.00	10.00	781127	1
Chromium	w	75-78	4(4)	NA	NA	10.00	10.00	781127	1
Copper	w	75-78	4(4)	NA	NA	10.00	10.00	781127	1
Lead	w	75-78	4(0)	NA	NA	59.99	131.00	781127	1
Mercury	w	75-78	3(3)	NA	NA	0.50	5.00	780327	1
Zinc	w	75-78	4(1)	NA	NA	59.99	80.00	781127	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	781127	2	2.00	2.00	0.00	NA	858
Cadmium	w	781127	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	781127	2	10.00	10.00	0.00	0.0572	NA
Copper	w	781127	2	10.00	10.00	0.00	0.0077	NA
Lead	w	781127	2	72.50	72.50	82.74	1.4810	NA
Mercury	w	780327	1	5.00	5.00	0.00	0.0715	NA
Zinc	w	781127	2	45.00	45.00	49.50	0.0061	NA

<u>River</u>	Little Hunting Creek	<u>Station</u>	1ALIF001.19
<u>R. Mile</u>	001.19	<u>Agency</u>	VASWCB
<u>Location</u>	At Sewage Treatment Plant, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-73	3(3)	NA	NA	5.00	5.00	720512	2
Cadmium	w	72-73	5(4)	NA	NA	10.00	10.00	720802	4
Chromium	w	70-74	11(10)	0.00	0.500	10.00	10.00	740521	11
Copper	w	70-74	11(5)	0.00	0.500	19.99	49.99	730117	1
Lead	w	72-74	9(2)	NA	NA	10.00	89.99	720512	1
Mercury	w	72-74	10(9)	0.00	0.500	0.50	0.80	730516	1
Zinc	w	70-74	10(2)	10.00	0.150	19.99	119.90	720130	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730802	1	1.00	1.00	0.00	NA	429
Cadmium	w	730802	1	2.00	2.00	0.00	0.1971	NA
Chromium	w	740521	3	10.00	10.00	0.00	0.0572	NA
Copper	w	740521	3	10.00	13.33	5.77	0.0077	NA
Lead	w	740521	3	10.00	13.33	5.77	0.2043	NA
Mercury	w	740521	3	0.50	0.50	0.00	0.0071	NA
Zinc	w	740521	3	29.99	26.66	15.27	0.0041	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Little Hunting Creek	<u>Station</u>	XFB4051
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Near Sewage Treatment Plant, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chlordane	f	70-70	1(0)	NA	NA	12.00	12.00	700731	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chlordane	f	700731	1	12.00	12.00	0.00	22.2960	1795

<u>River</u>	Little Hunting Creek	<u>Station</u>	1ALIF000.19
<u>R. Mile</u>	000.19	<u>Agency</u>	VASWCB
<u>Location</u>	George Washington Parkway Bridge, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	80-87	15(7)	NA	NA	2.30	10.10	810730	1
Arsenic	s	80-86	4(1)	NA	NA	3.80	5.80	820419	1
Arsenic	w	75-86	10(6)	-0.50	0.060	2.00	4.00	810908	1
Beryllium	w	83-86	2(2)	NA	NA	1.50	2.00	860811	1
Cadmium	f	83-87	9(8)	NA	NA	0.10	0.20	870806	3
Cadmium-dwt	f	79-84	15(6)	NA	NA	0.16	0.53	830907	1
Cadmium	s	80-86	4(4)	NA	NA	0.21	0.30	820419	1
Cadmium	w	75-86	11(9)	0.00	0.100	10.00	10.00	810908	5
Chromium	w	74-86	12(11)	0.00	0.100	10.00	20.00	810908	1
Chromium	f	83-87	9(1)	NA	NA	0.42	0.80	870806	1
Chromium-dwt	f	79-84	15(0)	NA	NA	1.63	3.70	830907	1
Chromium	s	80-86	4(0)	NA	NA	14.25	18.80	820419	1
Copper	f	83-87	9(0)	NA	NA	1.42	3.80	830907	1
Copper-dwt	f	79-84	15(0)	NA	NA	8.60	90.00	840712	2
Copper	s	80-86	4(0)	NA	NA	14.50	18.30	810414	1
Copper	w	74-86	12(12)	0.00	0.100	10.00	10.00	860714	7
Lead	f	83-87	9(4)	NA	NA	2.10	3.00	840712	1
Lead-dwt	f	79-84	15(5)	NA	NA	3.20	14.30	840712	1
Lead	s	80-86	4(0)	NA	NA	25.85	63.60	820419	1
Lead	w	74-86	12(3)	-1.87	0.500	7.00	24.00	780419	1
Mercury	f	79-84	15(7)	NA	NA	0.09	0.14	790801	1
Mercury	s	80-86	4(2)	NA	NA	0.14	0.20	810414	1
Mercury	w	74-86	10(9)	0.00	0.270	0.50	0.50	771031	5
Nickel	s	80-86	4(0)	NA	NA	12.30	17.10	820419	1
Nickel	w	79-86	4(2)	NA	NA	10.00	100.00	860714	1
Selenium	w	83-86	2(1)	NA	NA	1.50	2.00	860811	1
Zinc	f	87-87	3(0)	NA	NA	15.60	69.40	870806	1
Zinc	s	80-86	4(0)	NA	NA	78.40	101.00	820419	1
Zinc	w	74-86	12(4)	-3.75	0.360	20.00	70.00	780419	1
Aldrin	f	79-84	15(15)	NA	NA	0.10	1.00	810730	3
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830606	1
Alpha BHC	f	79-84	15(15)	NA	NA	0.10	1.00	810730	3
Gamma BHC(Lindane)	f	79-84	15(15)	NA	NA	0.10	1.00	810730	3
Lindane(organiems)	f	79-84	15(15)	NA	NA	0.10	1.00	810730	3
Chlordane	f	79-84	15(14)	NA	NA	0.10	1.60	790801	1
Dieldrin	f	79-84	15(15)	NA	NA	0.10	1.00	810730	3
Endrin	f	79-84	15(15)	NA	NA	0.10	1.00	810730	3
Hexachlorobenzene	f	79-84	15(15)	NA	NA	0.10	1.00	810730	3
PCB's	f	79-84	15(15)	NA	NA	0.10	1.00	810730	3
P,P'DDD	f	79-84	15(15)	NA	NA	0.10	1.00	810730	3
P,P'DDE	f	79-84	15(15)	NA	NA	0.10	1.00	810730	3
P,P'DDT	f	79-84	15(15)	NA	NA	0.10	1.00	810730	3
Pentachlorophenol	f	79-84	15(13)	NA	NA	0.10	1.00	810730	3

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

Station XFB4051 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	870806	3	0.20	0.20	0.00	NA	279
Arsenic	s	860811	1	2.00	2.00	0.00	NA	NA
Arsenic	w	860714	1	3.00	3.00	0.00	NA	1287
Beryllium	w	860811	1	2.00	2.00	0.00	0.1144	NA
Cadmium	f	870806	3	0.20	0.20	0.00	0.0641	NA
Cadmium-dwt	f	840712	6	0.39	0.37	0.13	NA	NA
Cadmium	s	860811	1	0.20	0.20	0.00	NA	NA
Cadmium	w	860714	1	8.00	8.00	0.00	0.7890	NA
Chromium	w	860714	1	1.00	1.00	0.00	0.0057	NA
Chromium	f	870806	3	0.20	0.40	0.35	NA	NA
Chromium-dwt	f	840712	6	1.87	2.03	0.90	NA	NA
Chromium	s	860811	1	7.50	7.50	0.00	NA	NA
Copper	f	870806	3	1.30	1.57	1.03	0.0033	NA
Copper-dwt	f	840712	6	30.00	40.00	45.17	NA	NA
Copper	s	860811	1	3.60	3.60	0.00	NA	NA
Copper	w	860714	1	10.00	10.00	0.00	0.0077	NA
Lead	f	870806	3	2.10	2.07	0.06	0.1393	NA
Lead-dwt	f	840712	6	7.80	8.93	3.39	NA	NA
Lead	s	860811	1	13.90	13.90	0.00	NA	NA
Lead	w	860714	1	4.00	4.00	0.00	0.0817	NA
Mercury	f	840712	6	0.11	0.10	0.01	0.0049	NA
Mercury	s	860811	1	0.10	0.10	0.00	NA	NA
Mercury	w	860714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860811	1	5.90	5.90	0.00	NA	NA
Nickel	w	860714	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860811	1	2.00	2.00	0.00	0.0191	NA
Zinc	f	870806	3	15.60	30.93	33.54	0.0069	NA
Zinc	s	860811	1	21.80	21.80	0.00	NA	NA
Zinc	w	860714	1	10.00	10.00	0.00	0.0014	NA
Aldrin	f	840712	6	0.01	0.01	0.00	0.0310	11
Aldrin	w	830606	1	0.10	0.10	0.00	0.0953	33
Alpha BHC	f	840712	6	0.01	0.01	0.00	NA	10
Gamma BHC(Lindane)	f	840712	6	0.01	0.01	0.00	0.0010	1
Lindane(organisms)	f	840712	6	0.01	0.01	0.00	NA	NA
Chlordane	f	840712	6	0.01	0.01	0.00	0.0186	1
Dieldrin	f	840712	6	0.01	0.01	0.00	NA	28
Endrin	f	840712	6	0.01	0.01	0.00	NA	NA
Hexachlorobenzene	f	840712	6	0.01	0.01	0.00	NA	2
PCB's	f	840712	6	0.01	0.01	0.00	NA	4
P,P'DDD	f	840712	6	0.01	0.01	0.00	NA	NA
P,P'DDE	f	840712	6	0.01	0.01	0.00	NA	NA
P,P'DDT	f	840712	6	0.01	0.01	0.00	NA	NA
Pentachlorophenol	f	840712	6	0.01	0.01	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Dogue Creek	<u>Station</u>	1ADOU002.19
<u>R. Mile</u>	002.19	<u>Agency</u>	VASWCB
<u>Location</u>	Route 623 Bridge, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-75	1(1)	NA	NA	3.00	3.00	751027	1
Cadmium	w	75-75	2(2)	NA	NA	10.00	10.00	751027	2
Chromium	w	74-75	3(3)	NA	NA	10.00	10.00	751027	3
Copper	w	74-75	3(3)	NA	NA	10.00	10.00	751027	3
Lead	w	74-75	3(1)	NA	NA	11.99	26.99	750515	1
Mercury	w	74-75	3(2)	NA	NA	0.50	0.50	751027	3
Zinc	w	74-75	3(0)	NA	NA	29.99	39.99	741212	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	751027	1	3.00	3.00	0.00	NA	1287
Cadmium	w	751027	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	751027	3	10.00	10.00	0.00	0.0572	NA
Copper	w	751027	3	10.00	10.00	0.00	0.0077	NA
Lead	w	751027	3	11.99	16.33	9.29	0.2449	NA
Mercury	w	751027	3	0.50	0.50	0.00	0.0072	NA
Zinc	w	751027	3	29.99	33.32	5.77	0.0041	NA

<u>River</u>	Dogue Creek	<u>Station</u>	15D
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDPW Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(1)	NA	NA	2.00	2.00	871216	2
Cadmium	w	87-87	2(2)	NA	NA	4.00	4.00	871216	2
Chromium	w	87-87	2(0)	NA	NA	7.00	7.00	871216	2
Copper	w	87-87	2(0)	NA	NA	6.00	6.00	871216	2
Lead	w	87-87	2(0)	NA	NA	2.00	3.00	870916	1
Mercury	w	87-87	2(2)	NA	NA	0.02	0.02	871216	2
Nickel	w	87-87	2(2)	NA	NA	15.00	15.00	871216	2
Zinc	w	87-87	2(1)	NA	NA	3.00	4.00	870916	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.00	6.00	0.00	0.0046	NA
Lead	w	871216	2	2.00	2.00	1.41	0.0409	NA
Mercury	w	871216	2	0.02	0.02	0.00	0.0003	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	3.00	3.00	1.41	0.0004	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac River	<u>Station</u> 232015
<u>R. Mile</u>	85.	<u>Agency</u> DCCRA
<u>Location</u>	Marshall Hall, Md	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Phenols	w	73-74	7(0)	NA	NA	10.00	13.00	740318	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Phenols	w	740318	6	7.50	7.83	3.66	0.0021	NA

<u>River</u>	Scott Run	<u>Station</u> 1ASCO000.76
<u>R. Mile</u>	000.76	<u>Agency</u> VASWCB
<u>Location</u>	Route 193 Bridge, Fairfax Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-79	6(5)	-0.42	0.100	2.00	3.00	751007	1
Cadmium	w	75-79	6(6)	0.00	0.100	10.00	10.00	790411	3
Chromium	w	75-79	6(6)	0.00	0.100	10.00	10.00	790411	3
Copper	w	77-79	5(5)	0.00	0.270	10.00	10.00	790411	3
Lead	w	75-79	6(0)	-2.99	0.500	6.50	15.99	770404	1
Mercury	w	75-78	5(5)	-0.07	0.270	0.50	0.50	771021	3
Zinc	w	75-79	6(4)	0.00	0.360	10.00	439.90	771021	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790411	3	2.00	1.67	0.58	NA	858
Cadmium	w	790411	3	10.00	10.00	0.00	0.9862	NA
Chromium	w	790411	3	10.00	10.00	0.00	0.0572	NA
Copper	w	790411	3	10.00	10.00	0.00	0.0077	NA
Lead	w	790411	3	7.00	5.67	4.16	0.1430	NA
Mercury	w	781025	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	790411	3	10.00	13.33	5.77	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Accotink Creek	<u>Station</u>	01655000
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Near Accotink Station, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	s	77-77	1(0)	NA	NA	10.00	10.00	770830	1
Chromium	s	77-77	1(0)	NA	NA	30.00	30.00	770830	1
Copper	s	77-77	1(1)	NA	NA	10.00	10.00	770830	1
Lead	s	77-77	1(1)	NA	NA	10.00	10.00	770830	1
Zinc	s	77-77	1(0)	NA	NA	30.00	30.00	770830	1
Aldrin	s	77-77	1(0)	NA	NA	0.20	0.20	770830	1
Chlordane_dwt	s	77-77	1(0)	NA	NA	2.00	2.00	770830	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	s	770830	1	10.00	10.00	0.00	NA	NA
Chromium	s	770830	1	30.00	30.00	0.00	NA	NA
Copper	s	770830	1	10.00	10.00	0.00	NA	NA
Lead	s	770830	1	10.00	10.00	0.00	NA	NA
Zinc	s	770830	1	30.00	30.00	0.00	NA	NA
Aldrin	s	770830	1	0.20	0.20	0.00	NA	NA
Chlordane-dwt	s	770830	1	2.00	2.00	0.00	NA	NA

<u>River</u>	Accotink Creek	<u>Station</u>	1AACO014.57
<u>R. Mile</u>	014.57	<u>Agency</u>	VASWCB
<u>Location</u>	Route 620 Bridge. Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-79	6(5)	0.00	0.500	2.00	3.00	751027	1
Cadmium	w	75-79	7(7)	0.00	0.270	10.00	10.00	790425	3
Chromium	w	74-79	8(8)	0.00	0.270	10.00	10.00	790425	3
Copper	w	74-79	8(8)	0.00	0.270	10.00	10.00	790425	3
Lead	w	74-79	8(2)	4.00	0.150	9.50	41.00	781128	1
Mercury	w	74-79	7(7)	-0.10	0.150	0.50	0.50	771118	5
Zinc	w	74-79	8(2)	-9.99	0.270	20.00	40.00	781128	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790425	2	2.00	2.00	0.00	NA	858
Cadmium	w	790425	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	790425	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790425	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790425	2	26.00	26.00	21.21	0.5311	NA
Mercury	w	790425	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	790425	2	25.00	25.00	21.21	0.0034	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Accotink Creek	<u>Station</u>	1AAC0009.08
<u>R. Mile</u>	009.08	<u>Agency</u>	VASWCB
<u>Location</u>	Route 636 Bridge, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-79	6(5)	0.00	0.270	2.00	3.00	751027	1
Cadmium	w	75-79	6(6)	0.00	0.100	10.00	10.00	790425	3
Chromium	w	74-79	7(7)	0.00	0.100	10.00	10.00	790425	3
Copper	w	74-79	7(7)	0.00	0.100	10.00	10.00	790425	3
Lead	w	74-79	7(1)	2.00	0.030	8.00	10.00	790425	1
Mercury	w	74-79	7(7)	-0.08	0.060	0.50	0.50	771019	4
Zinc	w	74-79	7(3)	0.00	0.500	10.00	19.99	751027	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790425	2	2.00	2.00	0.00	NA	858
Cadmium	w	790425	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	790425	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790425	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790425	2	9.50	9.50	0.71	0.1941	NA
Mercury	w	790425	2	0.30	0.30	0.00	0.0043	NA
Zinc	w	790425	2	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Accotink Creek	<u>Station</u>	1AAC0001.78
<u>R. Mile</u>	001.78	<u>Agency</u>	VASWCB
<u>Location</u>	Fort Belvoir, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-82	3(2)	NA	NA	1.30	4.50	820408	1
Arsenic	w	75-86	12(10)	0.00	0.500	1.50	3.00	751027	1
Beryllium	w	83-83	1(1)	NA	NA	1.00	1.00	830606	1
Cadmium	s	80-82	3(3)	NA	NA	0.13	0.20	820408	1
Cadmium	w	75-86	13(12)	0.00	0.100	10.00	10.00	810831	5
Chromium	w	74-86	14(14)	0.00	0.270	10.00	10.00	810831	5
Chromium	s	80-82	3(0)	NA	NA	9.00	9.48	810421	1
Copper	s	80-82	3(0)	NA	NA	6.80	8.04	810421	1
Copper	w	74-86	14(13)	0.00	0.270	10.00	10.00	860714	9
Lead	s	80-82	3(0)	NA	NA	14.50	29.40	820408	1
Lead	w	74-86	14(4)	-0.75	0.210	6.00	32.99	771118	1
Mercury	s	81-82	2(1)	NA	NA	0.15	0.20	810421	1
Mercury	w	74-86	13(11)	0.00	0.150	0.30	0.60	750515	1
Nickel	s	80-82	3(1)	NA	NA	3.60	5.00	820408	1
Nickel	w	79-86	6(3)	45.00	0.150	15.00	100.00	860714	1
Selenium	w	83-83	1(1)	NA	NA	1.00	1.00	830606	1
Zinc	s	80-82	3(0)	NA	NA	27.10	30.00	810421	1
Zinc	w	74-86	14(4)	-5.00	0.500	19.99	50.00	810831	1
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830606	1
Heptachlor Epoxide	w	76-76	1(0)	NA	NA	0.05	0.05	760430	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

Station 1AAC0009.08 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	820408	2	2.85	2.85	2.33	NA	NA
Arsenic	w	860714	1	1.00	1.00	0.00	NA	429
Beryllium	w	830606	1	1.00	1.00	0.00	0.0572	NA
Cadmium	s	820408	2	0.16	0.16	0.06	NA	NA
Cadmium	w	860714	1	5.00	5.00	0.00	0.4931	NA
Chromium	w	860714	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	820408	2	9.24	9.24	0.34	NA	NA
Copper	s	820408	2	7.42	7.42	0.88	NA	NA
Copper	w	860714	1	10.00	10.00	0.00	0.0077	NA
Lead	s	820408	2	21.95	21.95	10.54	NA	NA
Lead	w	860714	1	1.00	1.00	0.00	0.0204	NA
Mercury	s	820408	2	0.15	0.15	0.08	NA	NA
Mercury	w	860714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	820408	2	4.30	4.30	0.99	NA	NA
Nickel	w	860714	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	830606	1	1.00	1.00	0.00	0.0095	NA
Zinc	s	820408	2	28.55	28.55	2.05	NA	NA
Zinc	w	860714	1	10.00	10.00	0.00	0.0014	NA
Aldrin	w	830606	1	0.10	0.10	0.00	0.0953	33
Heptachlor Expoxide	w	760430	1	0.05	0.05	0.00	0.0477	4

<u>River</u>	Accotink Creek	<u>Station</u> 101033
<u>R. Mile</u>	91.3-2-1.64	<u>Agency</u> DCCRA
<u>Location</u>	Colechester Rd. Bridge Approx. .25 Mi. So. Accotink, Va	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Copper	w	80-81	17(10)	NA	NA	50.00	190.00	810423	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Copper	w	811119	12	50.00	54.02	60.84	0.0386	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Accotink Creek	<u>Station</u>	13A
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	Approx. 0.25 mile N. of mouth at Accotink Bay		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(1)	NA	NA	2.00	2.00	871216	2
Cadmium	w	87-87	2(2)	NA	NA	4.00	4.00	871216	2
Chromium	w	87-87	2(0)	NA	NA	7.00	7.00	871216	2
Copper	w	87-87	2(0)	NA	NA	6.50	7.00	870916	1
Lead	w	87-87	2(0)	NA	NA	3.00	4.00	870916	1
Mercury	w	87-87	2(2)	NA	NA	0.02	0.02	871216	2
Nickel	w	87-87	2(2)	NA	NA	15.00	15.00	871216	2
Zinc	w	87-87	2(1)	NA	NA	4.50	7.00	870916	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.50	6.50	0.71	0.0050	NA
Lead	w	871216	2	3.00	3.00	1.41	0.0613	NA
Mercury	w	871216	2	0.02	0.02	0.00	0.0003	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	4.50	4.50	3.54	0.0006	NA

<u>River</u>	Accotink Bay	<u>Station</u>	6G
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	Mouth of Accotink Bay		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(1)	NA	NA	2.00	2.00	871216	2
Cadmium	w	77-87	17(17)	0.00	0.500	4.00	4.00	871216	17
Chromium	w	77-87	17(15)	0.00	0.500	7.00	7.00	871216	17
Copper	w	77-87	17(14)	0.00	0.500	6.00	7.00	871216	1
Lead	w	77-87	17(15)	0.00	0.500	1.00	6.00	870916	1
Mercury	w	77-87	16(6)	-0.01	0.360	0.10	2.00	810317	1
Nickel	w	77-87	17(17)	0.00	0.500	15.00	15.00	871216	17
Zinc	w	77-87	17(10)	-1.06	0.060	2.00	20.00	770413	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.50	6.50	0.71	0.0050	NA
Lead	w	871216	2	4.50	4.50	2.12	0.0919	NA
Mercury	w	871216	2	0.02	0.02	0.00	0.0003	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	5.00	5.00	4.24	0.0007	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Pohick Creek	<u>Station</u>	1APOH015.09
<u>R. Mile</u>	015.09	<u>Agency</u>	VASWCB
<u>Location</u>	Route 645 Bridge, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-78	3(3)	NA	NA	2.00	3.00	751027	1
Cadmium	w	75-78	3(3)	NA	NA	10.00	10.00	781128	1
Chromium	w	74-78	4(4)	NA	NA	10.00	10.00	781128	1
Copper	w	74-78	4(4)	NA	NA	10.00	10.00	781128	1
Lead	w	74-78	4(1)	NA	NA	8.00	20.00	781128	1
Mercury	w	74-77	3(3)	NA	NA	0.50	0.50	770328	3
Zinc	w	74-78	4(1)	NA	NA	14.99	20.00	781128	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	781128	1	2.00	2.00	0.00	NA	858
Cadmium	w	781128	1	10.00	10.00	0.00	0.9862	NA
Chromium	w	781128	1	10.00	10.00	0.00	0.0572	NA
Copper	w	781128	1	10.00	10.00	0.00	0.0077	NA
Lead	w	781128	1	20.00	20.00	0.00	0.4086	NA
Mercury	w	770328	1	0.50	0.50	0.00	0.0072	NA
Zinc	w	781128	1	20.00	20.00	0.00	0.0027	NA

<u>River</u>	Pohick Creek	<u>Station</u>	1APOH007.65
<u>R. Mile</u>	95.38-7.65	<u>Agency</u>	VASWCB
<u>Location</u>	Route 641 Bridge, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-86	4(3)	NA	NA	1.80	6.20	820408	1
Arsenic	w	77-86	8(5)	0.00	0.500	1.50	33.00	810831	1
Beryllium	w	83-86	2(2)	NA	NA	1.55	2.10	860811	1
Cadmium	s	80-86	4(4)	NA	NA	0.25	15.00	810421	1
Cadmium	w	75-86	9(8)	2.00	0.270	10.00	10.00	810831	3
Chromium	w	75-86	9(9)	0.00	0.500	10.00	10.00	810831	3
Chromium	s	80-86	4(0)	NA	NA	8.55	11.20	810421	1
Copper	s	80-86	4(0)	NA	NA	5.40	11.50	810421	1
Copper	w	75-86	9(8)	0.00	0.500	10.00	19.99	750515	1
Lead	s	80-86	4(0)	NA	NA	16.50	37.20	820408	1
Lead	w	75-85	8(1)	NA	NA	13.99	46.00	781128	1
Mercury	s	81-86	3(3)	NA	NA	0.10	0.20	810421	1
Mercury	w	75-86	8(8)	0.00	0.500	0.30	0.50	770328	2
Nickel	s	80-86	3(0)	NA	NA	4.30	5.00	820408	1
Nickel	w	79-86	6(2)	45.00	0.150	25.00	100.00	860714	1
Selenium	w	83-86	2(2)	NA	NA	1.55	2.10	860811	1
Zinc	s	80-86	4(0)	NA	NA	20.65	46.70	810421	1
Zinc	w	75-86	9(5)	0.00	0.500	10.00	60.00	810831	1
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830606	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

Station 1APOH007.65 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860811	1	2.10	2.10	0.00	NA	NA
Arsenic	w	860714	1	1.00	1.00	0.00	NA	429
Beryllium	w	860811	1	2.10	2.10	0.00	0.1201	NA
Cadmium	s	860811	1	0.21	0.21	0.00	NA	NA
Cadmium	w	860714	1	5.00	5.00	0.00	0.4931	NA
Chromium	w	860714	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860811	1	7.20	7.20	0.00	NA	NA
Copper	s	860811	1	4.30	4.30	0.00	NA	NA
Copper	w	860714	1	10.00	10.00	0.00	0.0077	NA
Lead	s	860811	1	9.60	9.60	0.00	NA	NA
Lead	w	850708	2	2.00	2.00	0.00	0.0409	NA
Mercury	s	860811	1	0.10	0.10	0.00	NA	NA
Mercury	w	860714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860811	1	4.30	4.30	0.00	NA	NA
Nickel	w	860714	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860811	1	2.10	2.10	0.00	0.0200	NA
Zinc	s	860811	1	16.50	16.50	0.00	NA	NA
Zinc	w	860714	1	10.00	10.00	0.00	0.0014	NA
Aldrin	w	830606	1	0.10	0.10	0.00	0.0953	33

<u>River</u>	Pohick Creek	<u>Station</u>	01655390
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Lorton, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	s	77-77	1(1)	NA	NA	10.00	10.00	770830	1
Chromium	s	77-77	1(0)	NA	NA	10.00	10.00	770830	1
Copper	s	77-77	1(1)	NA	NA	10.00	10.00	770830	1
Lead	s	77-77	1(1)	NA	NA	10.00	10.00	770830	1
Zinc	s	77-77	1(0)	NA	NA	90.00	90.00	770830	1
Chlordane-dwt	s	77-77	1(0)	NA	NA	9.00	9.00	770830	1
Dieldrin	s	77-77	1(0)	NA	NA	0.20	0.20	770830	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	s	770830	1	10.00	10.00	0.00	NA	NA
Chromium	s	770830	1	10.00	10.00	0.00	NA	NA
Copper	s	770830	1	10.00	10.00	0.00	NA	NA
Lead	s	770830	1	10.00	10.00	0.00	NA	NA
Zinc	s	770830	1	90.00	90.00	0.00	NA	NA
Chlordane-dwt	s	770830	1	9.00	9.00	0.00	NA	NA
Dieldrin	s	770830	1	0.20	0.20	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Pohick Creek	<u>Station</u>	1G
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	Above STP at Route 1		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-88	23(23)	NA	NA	2.00	2.00	880510	23
Cadmium	w	75-88	177(177)	0.00	0.500	4.00	4.00	880510	177
Chromium	w	75-88	177(156)	0.00	0.000	7.00	60.00	850212	1
Copper	w	75-88	177(83)	0.00	0.010	6.00	50.00	780711	1
Lead	w	75-88	175(164)	0.00	0.010	1.00	90.00	850212	1
Mercury	w	76-88	156(45)	-0.02	0.000	0.10	8.40	810210	1
Nickel	w	75-88	177(174)	0.00	0.020	15.00	50.00	880412	1
Zinc	w	75-88	177(58)	0.50	0.000	8.00	147.00	850212	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	880510	13	2.00	2.00	0.00	NA	858
Cadmium	w	880510	13	4.00	4.00	0.00	0.3945	NA
Chromium	w	880510	13	7.00	7.08	0.28	0.0400	NA
Copper	w	880510	13	6.00	7.54	3.62	0.0046	NA
Lead	w	880510	13	1.00	2.69	5.23	0.0204	NA
Mercury	w	880510	13	0.02	0.05	0.05	0.0003	NA
Nickel	w	880510	13	15.00	17.69	9.71	0.0429	NA
Zinc	w	880510	13	6.00	7.00	6.73	0.0008	NA

<u>River</u>	Pohick Creek	<u>Station</u>	1APOH005.36
<u>R. Mile</u>	005.36	<u>Agency</u>	VASWCB
<u>Location</u>	Route 1 Bridge above STP, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-73	3(2)	NA	NA	5.00	5.00	720512	2
Cadmium	w	72-73	4(4)	NA	NA	10.00	10.00	720802	3
Chromium	w	72-74	9(9)	0.00	0.500	10.00	10.00	740530	9
Copper	w	72-74	9(8)	0.00	0.500	10.00	10.00	740530	9
Lead	w	72-74	8(6)	NA	NA	10.00	49.99	721016	1
Mercury	w	72-74	9(9)	0.00	0.500	0.50	0.50	740530	9
Zinc	w	72-74	9(5)	0.00	0.500	10.00	149.90	721016	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730805	1	3.00	3.00	0.00	NA	1287
Cadmium	w	730805	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	740530	3	10.00	10.00	0.00	0.0572	NA
Copper	w	740530	3	10.00	10.00	0.00	0.0077	NA
Lead	w	740530	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740530	3	0.50	0.50	0.00	0.0071	NA
Zinc	w	740530	3	10.00	20.00	17.32	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Pohick Creek	<u>Station</u>	101032
<u>R. Mile</u>	91.3-5.7	<u>Agency</u>	DCCRA
<u>Location</u>	Rt.1 Bridge, Approx. 1 Mile On U.S. Rt. 1 S.W. Of Pohick,VA		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Copper	w	80-81	18(11)	NA	NA	50.00	290.00	810423	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Copper	w	811119	12	50.00	60.06	80.78	0.0386	NA

<u>River</u>	Pohick Creek	<u>Station</u>	1APOH004.79
<u>R. Mile</u>	004.79	<u>Agency</u>	VASWCB
<u>Location</u>	Route 611 Bridge, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-79	9(8)	0.50	0.270	2.00	5.00	720508	2
Cadmium	w	72-79	10(9)	0.00	0.270	10.00	10.00	790425	3
Chromium	w	72-79	17(15)	0.00	0.270	10.00	19.99	751027	1
Copper	w	72-79	17(10)	0.00	0.270	10.00	29.99	730805	3
Lead	w	72-79	16(7)	-4.00	0.060	10.00	29.99	721016	2
Mercury	w	72-79	15(13)	0.00	0.500	0.50	2.00	750515	1
Zinc	w	72-79	17(0)	0.00	0.500	29.99	129.90	721016	1
Aldrin	w	79-79	1(0)	NA	NA	0.13	0.13	790521	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790425	2	2.50	2.50	0.71	NA	1073
Cadmium	w	790425	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	790425	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790425	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790425	2	16.00	16.00	12.73	0.3269	NA
Mercury	w	790425	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	790425	2	35.00	35.00	7.07	0.0048	NA
Aldrin	w	790521	1	0.13	0.13	0.00	0.1239	42

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Pohick Creek	<u>Station</u>	2G
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDPW Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-88	23(22)	NA	NA	2.00	2.00	880510	23
Cadmium	w	75-88	179(176)	0.00	0.070	4.00	7.00	750513	1
Chromium	w	75-88	179(153)	0.00	0.010	7.00	40.00	850212	1
Copper	w	75-88	180(60)	0.00	0.000	8.00	40.00	760914	2
Lead	w	75-88	178(162)	0.00	0.070	1.00	40.00	850212	1
Mercury	w	76-88	157(55)	-0.01	0.000	0.10	7.00	790814	1
Nickel	w	75-88	178(170)	0.00	0.080	15.00	100.00	750408	1
Zinc	w	75-88	180(25)	0.00	0.310	14.50	200.00	790109	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	880510	13	2.00	2.00	0.00	NA	858
Cadmium	w	880510	13	4.00	4.00	0.00	0.3945	NA
Chromium	w	880510	13	7.00	7.00	0.00	0.0400	NA
Copper	w	880510	13	6.00	7.46	4.68	0.0046	NA
Lead	w	880510	13	2.00	1.85	0.90	0.0409	NA
Mercury	w	880510	13	0.02	0.05	0.03	0.0003	NA
Nickel	w	880510	13	15.00	19.23	15.25	0.0429	NA
Zinc	w	880510	13	8.00	13.92	19.19	0.0011	NA

<u>River</u>	Pohick Creek	<u>Station</u>	3G
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDPW Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	86-88	21(21)	NA	NA	2.00	2.00	880510	21
Cadmium	w	75-88	153(153)	0.00	0.500	4.00	4.00	880510	153
Chromium	w	75-88	153(136)	0.00	0.020	7.00	25.00	841009	1
Copper	w	75-88	153(50)	-0.06	0.000	8.00	65.00	770111	1
Lead	w	75-88	152(140)	0.00	0.000	1.00	70.00	851008	1
Mercury	w	76-88	137(54)	-0.01	0.000	0.10	7.30	790410	1
Nickel	w	75-88	153(147)	0.00	0.010	15.00	70.00	880412	1
Zinc	w	75-88	153(200)	-0.50	0.080	16.00	200.00	790109	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	880510	11	2.00	2.00	0.00	NA	858
Cadmium	w	880510	11	4.00	4.00	0.00	0.3945	NA
Chromium	w	880510	11	7.00	7.00	0.00	0.0400	NA
Copper	w	880510	11	6.00	7.00	3.32	0.0046	NA
Lead	w	880510	11	2.00	1.91	0.94	0.0409	NA
Mercury	w	880510	11	0.02	0.04	0.03	0.0003	NA
Nickel	w	880510	11	15.00	20.00	16.58	0.0429	NA
Zinc	w	880510	11	7.00	7.64	3.70	0.0010	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Pohick Creek	<u>Station</u>	4G
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDPW Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(1)	NA	NA	2.00	2.00	871216	2
Cadmium	w	75-87	36(35)	0.00	0.500	4.00	19.00	770412	1
Chromium	w	75-87	36(33)	0.00	0.500	7.00	21.00	751022	1
Copper	w	75-87	36(17)	0.00	0.130	6.00	20.00	760830	1
Lead	w	75-87	36(34)	0.00	0.500	1.00	7.00	870916	1
Mercury	w	76-87	28(7)	0.02	0.340	0.20	2.30	781109	1
Nickel	w	75-87	36(36)	0.00	0.500	15.00	15.00	871216	36
Zinc	w	75-87	36(10)	-1.00	0.230	9.00	128.00	790607	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.50	6.50	0.71	0.0050	NA
Lead	w	871216	2	5.00	5.00	2.83	0.1021	NA
Mercury	w	871216	2	0.02	0.02	0.00	0.0003	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	4.00	4.00	2.83	0.0005	NA

<u>River</u>	Pohick Creek	<u>Station</u>	10G
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDPW Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(1)	NA	NA	2.00	2.00	871216	2
Cadmium	w	87-87	2(2)	NA	NA	4.00	4.00	871216	2
Chromium	w	87-87	2(0)	NA	NA	7.00	7.00	871216	2
Copper	w	87-87	2(0)	NA	NA	6.00	6.00	871216	2
Lead	w	87-87	2(0)	NA	NA	2.50	3.00	870916	1
Mercury	w	87-87	2(2)	NA	NA	0.02	0.02	871216	2
Nickel	w	87-87	2(2)	NA	NA	15.00	15.00	871216	2
Zinc	w	87-87	2(1)	NA	NA	3.50	5.00	870916	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.00	6.00	0.00	0.0046	NA
Lead	w	871216	2	2.50	2.50	0.71	0.0511	NA
Mercury	w	871216	2	0.02	0.02	0.00	0.0003	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	3.50	3.50	2.12	0.0005	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Pohick Creek	<u>Station</u>	5G
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDPW Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(1)	NA	NA	2.00	2.00	871216	2
Cadmium	w	81-87	3(3)	NA	NA	4.00	4.00	871216	3
Chromium	w	81-87	3(1)	NA	NA	7.00	7.00	871216	3
Copper	w	81-87	3(1)	NA	NA	6.00	6.00	871216	3
Lead	w	81-87	3(1)	NA	NA	2.00	4.00	870916	1
Mercury	w	81-87	3(2)	NA	NA	0.02	1.00	810317	1
Nickel	w	81-87	3(3)	NA	NA	15.00	15.00	871216	3
Zinc	w	81-87	3(2)	NA	NA	2.00	6.00	870916	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.00	6.00	0.00	0.0046	NA
Lead	w	871216	2	3.00	3.00	1.41	0.0613	NA
Mercury	w	871216	2	0.02	0.02	0.00	0.0003	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	4.00	4.00	2.83	0.0005	NA

<u>River</u>	Gunston Cove	<u>Station</u>	7G
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDPW Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	75-82	16(16)	0.00	0.500	4.00	4.00	820615	16
Chromium	w	75-82	16(16)	0.00	0.500	7.00	7.00	820615	16
Copper	w	75-82	16(12)	0.00	0.500	6.00	17.00	790724	1
Lead	w	75-82	16(16)	0.00	0.500	1.00	1.00	820615	16
Mercury	w	77-82	14(4)	-0.03	0.210	0.10	2.90	810317	1
Nickel	w	75-82	16(16)	0.00	0.500	15.00	15.00	820615	16
Zinc	w	75-82	16(7)	-3.25	0.130	7.00	29.00	770518	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	820615	3	4.00	4.00	0.00	0.3945	NA
Chromium	w	820615	3	7.00	7.00	0.00	0.0400	NA
Copper	w	820615	3	6.00	7.33	2.31	0.0046	NA
Lead	w	820615	3	1.00	1.00	0.00	0.0204	NA
Mercury	w	820615	2	0.02	0.02	0.00	0.0003	NA
Nickel	w	820615	3	15.00	15.00	0.00	0.0429	NA
Zinc	w	820615	3	2.00	3.67	2.89	0.0003	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Gunston Cove	<u>Station</u>	7GB
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDPW Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(1)	NA	NA	2.00	2.00	871216	2
Cadmium	w	87-87	2(2)	NA	NA	4.00	4.00	871216	2
Chromium	w	87-87	2(0)	NA	NA	7.00	7.00	871216	2
Copper	w	87-87	2(0)	NA	NA	6.00	6.00	871216	2
Lead	w	87-87	2(0)	NA	NA	2.00	3.00	870916	1
Mercury	w	87-87	2(1)	NA	NA	0.11	0.20	870916	1
Nickel	w	87-87	2(2)	NA	NA	15.00	15.00	871216	2
Zinc	w	87-87	2(1)	NA	NA	3.50	5.00	870916	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.00	6.00	0.00	0.0046	NA
Lead	w	871216	2	2.00	2.00	1.41	0.0409	NA
Mercury	w	871216	2	0.11	0.11	0.13	0.0016	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	3.50	3.50	2.12	0.0005	NA

<u>River</u>	Gunston Cove	<u>Station</u>	7GS
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDPW Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(1)	NA	NA	2.00	2.00	871216	2
Cadmium	w	87-87	2(2)	NA	NA	4.00	4.00	871216	2
Chromium	w	87-87	2(0)	NA	NA	7.00	7.00	871216	2
Copper	w	87-87	2(0)	NA	NA	6.00	6.00	871216	2
Lead	w	87-87	2(0)	NA	NA	2.00	2.00	871216	2
Mercury	w	87-87	2(1)	NA	NA	0.06	0.10	870916	1
Nickel	w	87-87	2(2)	NA	NA	15.00	15.00	871216	2
Zinc	w	87-87	2(1)	NA	NA	2.50	3.00	870916	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.00	6.00	0.00	0.0046	NA
Lead	w	871216	2	2.00	2.00	0.00	0.0409	NA
Mercury	w	871216	2	0.06	0.06	0.06	0.0009	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	2.50	2.50	0.71	0.0003	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Gunston Cove	<u>Station</u>	1APOH00.21
<u>R. Mile</u>	000.21	<u>Agency</u>	VASWCB
<u>Location</u>	Midway into Cove, Buoy 3, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-77	4(4)	NA	NA	2.50	5.00	720521	1
Cadmium	w	72-77	6(6)	NA	NA	10.00	10.00	770628	5
Chromium	w	72-77	8(7)	0.00	0.500	10.00	10.00	770628	8
Copper	w	72-77	8(8)	0.00	0.500	10.00	10.00	770628	8
Lead	w	72-77	7(5)	NA	NA	10.00	18.99	751017	1
Mercury	w	72-77	8(7)	0.00	0.500	0.50	0.50	770628	2
Zinc	w	72-77	8(3)	45.00	0.270	10.00	99.99	740506	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770628	1	2.00	2.00	0.00	NA	858
Cadmium	w	770628	1	10.00	10.00	0.00	0.9861	NA
Chromium	w	770628	1	10.00	10.00	0.00	0.0572	NA
Copper	w	770628	1	10.00	10.00	0.00	0.0077	NA
Lead	w	770628	1	2.00	2.00	0.00	0.0409	NA
Mercury	w	770628	1	0.50	0.50	0.00	0.0072	NA
Zinc	w	770628	1	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Gunston Cove	<u>Station</u>	11G
<u>R. Mile</u>	See FCDWP Map	<u>Agency</u>	FCDPW
<u>Location</u>	See FCDWP Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(2)	NA	NA	2.00	2.00	871216	2
Cadmium	w	87-87	2(2)	NA	NA	4.00	4.00	871216	2
Chromium	w	87-87	2(0)	NA	NA	7.00	7.00	871216	2
Copper	w	87-87	2(0)	NA	NA	6.00	6.00	871216	2
Lead	w	87-87	2(0)	NA	NA	1.50	2.00	871216	1
Mercury	w	87-87	2(2)	NA	NA	0.02	0.02	871216	2
Nickel	w	87-87	2(2)	NA	NA	15.00	15.00	871216	2
Zinc	w	87-87	2(1)	NA	NA	5.50	9.00	870916	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.00	6.00	0.00	0.0046	NA
Lead	w	871216	2	1.50	1.50	0.71	0.0306	NA
Mercury	w	871216	2	0.02	0.02	0.00	0.0003	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	5.50	5.50	4.95	0.0007	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Gunston Cove	<u>Station</u>	12GB
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDWP Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(2)	NA	NA	2.00	2.00	871216	2
Cadmium	w	87-87	2(2)	NA	NA	4.00	4.00	871216	2
Chromium	w	87-87	2(0)	NA	NA	7.00	7.00	871216	2
Copper	w	87-87	2(0)	NA	NA	6.00	6.00	871216	2
Lead	w	87-87	2(0)	NA	NA	2.00	2.00	871216	2
Mercury	w	87-87	2(1)	NA	NA	0.11	0.20	870916	1
Nickel	w	87-87	2(2)	NA	NA	15.00	15.00	871216	2
Zinc	w	87-87	2(1)	NA	NA	5.00	8.00	870916	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.00	6.00	0.00	0.0046	NA
Lead	w	871216	2	2.00	2.00	0.00	0.0409	NA
Mercury	w	871216	2	0.11	0.11	0.13	0.0016	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	5.00	5.00	4.24	0.0007	NA

<u>River</u>	Gunston Cove	<u>Station</u>	12GS
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDWP Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(2)	NA	NA	2.00	2.00	871216	2
Cadmium	w	87-87	2(2)	NA	NA	4.00	4.00	871216	2
Chromium	w	87-87	2(0)	NA	NA	7.00	7.00	871216	2
Copper	w	87-87	2(0)	NA	NA	6.00	6.00	871216	2
Lead	w	87-87	2(0)	NA	NA	2.00	2.00	871216	2
Mercury	w	87-87	2(2)	NA	NA	0.02	0.02	871216	2
Nickel	w	87-87	2(2)	NA	NA	15.00	15.00	871216	2
Zinc	w	87-87	2(1)	NA	NA	5.00	8.00	870916	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.00	6.00	0.00	0.0046	NA
Lead	w	871216	2	2.00	2.00	0.00	0.0409	NA
Mercury	w	871216	2	0.02	0.02	0.00	0.0003	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	5.00	5.00	4.24	0.0007	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Gunston Cove	<u>Station</u>	9G
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDPW Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	77-82	11(11)	0.00	0.00	4.00	4.00	820615	11
Chromium	w	77-82	11(11)	0.00	0.00	7.00	7.00	820615	11
Copper	w	77-82	11(10)	0.00	0.00	6.00	10.00	770413	1
Lead	w	77-82	11(11)	0.00	0.00	1.00	1.00	820615	11
Mercury	w	77-82	10(5)	0.00	0.00	0.06	0.60	780821	1
Nickel	w	77-82	11(11)	0.00	0.00	15.00	15.00	820615	11
Zinc	w	77-82	11(9)	0.00	0.00	2.00	10.00	770413	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Data	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	0	1	0.00	0.00	0.00	NA9999000000	
Cadmium	w	820615	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	820615	2	7.00	7.00	0.00	0.0400	NA
Copper	w	820615	2	6.00	6.00	0.00	0.0046	NA
Lead	w	820615	2	1.00	1.00	0.00	0.0204	NA
Mercury	w	820615	1	0.02	0.02	0.00	0.0003	NA
Nickel	w	820615	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	820615	2	2.00	2.00	0.00	0.0003	NA

<u>River</u>	Gunston Cove	<u>Station</u>	9GB
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDPW Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(1)	NA	NA	2.00	2.00	871216	2
Cadmium	w	87-87	2(2)	NA	NA	4.00	4.00	871216	2
Chromium	w	87-87	2(0)	NA	NA	7.00	7.00	871216	2
Copper	w	87-87	2(0)	NA	NA	6.50	7.00	870916	1
Lead	w	87-87	2(0)	NA	NA	2.50	3.00	870916	1
Mercury	w	87-87	2(1)	NA	NA	0.11	0.20	870916	1
Nickel	w	87-87	2(2)	NA	NA	15.00	15.00	871216	2
Zinc	w	87-87	2(1)	NA	NA	4.00	6.00	870916	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Data	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.50	6.50	0.71	0.0050	NA
Lead	w	871216	2	2.50	2.50	0.71	0.0511	NA
Mercury	w	871216	2	0.11	0.11	0.13	0.0016	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	4.00	4.00	2.83	0.0005	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Gunston Cove	<u>Station</u>	9GS
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDPW Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(1)	NA	NA	2.00	2.00	871216	2
Cadmium	w	87-87	2(2)	NA	NA	4.00	4.00	871216	2
Chromium	w	87-87	2(0)	NA	NA	7.00	7.00	871216	2
Copper	w	87-87	2(0)	NA	NA	6.00	6.00	871216	2
Lead	w	87-87	2(0)	NA	NA	1.50	2.00	870916	1
Mercury	w	87-87	2(2)	NA	NA	0.02	0.02	871216	2
Nickel	w	87-87	2(2)	NA	NA	15.00	15.00	871216	2
Zinc	w	87-87	2(1)	NA	NA	4.00	6.00	870916	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.00	6.00	0.00	0.0046	NA
Lead	w	871216	2	1.50	1.50	0.71	0.0306	NA
Mercury	w	871216	2	0.02	0.02	0.00	0.0003	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	4.00	4.00	2.83	0.0005	NA

<u>River</u>	Gunston Cove	<u>Station</u>	8G
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDPW Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	77-82	14(14)	0.00	0.500	4.00	4.00	820615	14
Chromium	w	77-82	14(14)	0.00	0.500	7.00	7.00	820615	14
Copper	w	77-82	14(11)	-1.50	0.150	6.00	12.00	770804	2
Lead	w	77-82	14(14)	0.00	0.500	1.00	1.00	820615	14
Mercury	w	77-82	13(4)	0.03	0.270	0.10	2.00	780821	1
Nickel	w	77-82	14(14)	0.00	0.500	15.00	15.00	820615	14
Zinc	w	77-82	14(9)	0.00	0.500	2.00	84.00	790509	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	820615	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	820615	2	7.00	7.00	0.00	0.0400	NA
Copper	w	820615	2	6.00	6.00	0.00	0.0046	NA
Lead	w	820615	2	1.00	1.00	0.00	0.0204	NA
Mercury	w	820615	1	0.02	0.02	0.00	0.0003	NA
Nickel	w	820615	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	820615	2	2.00	2.00	0.00	0.0003	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Gunston Cove	<u>Station</u>	8GS
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDPW Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(2)	NA	NA	2.00	2.00	871216	2
Cadmium	w	87-87	2(2)	NA	NA	4.00	4.00	871216	2
Chromium	w	87-87	2(0)	NA	NA	7.00	7.00	871216	2
Copper	w	87-87	2(0)	NA	NA	6.00	6.00	871216	2
Lead	w	87-87	2(0)	NA	NA	2.50	4.00	870916	1
Mercury	w	87-87	2(2)	NA	NA	0.02	0.02	871216	2
Nickel	w	87-87	2(2)	NA	NA	15.00	15.00	871216	2
Zinc	w	87-87	2(1)	NA	NA	3.50	5.00	870916	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.00	6.00	0.00	0.0046	NA
Lead	w	871216	2	2.50	2.50	2.12	0.0511	NA
Mercury	w	871216	2	0.02	0.02	0.00	0.0003	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	3.50	3.50	2.12	0.0005	NA

<u>River</u>	Gunston Cove	<u>Station</u>	8GB
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	See FCDPW Map		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(2)	NA	NA	2.00	2.00	871216	2
Cadmium	w	87-87	2(2)	NA	NA	4.00	4.00	871216	2
Chromium	w	87-87	2(0)	NA	NA	7.00	7.00	871216	2
Copper	w	87-87	2(0)	NA	NA	6.00	6.00	871216	2
Lead	w	87-87	2(0)	NA	NA	3.50	6.00	870916	1
Mercury	w	87-87	2(1)	NA	NA	0.11	0.20	870916	1
Nickel	w	87-87	2(2)	NA	NA	15.00	15.00	871216	2
Zinc	w	87-87	2(1)	NA	NA	3.00	4.00	870916	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.00	6.00	0.00	0.0046	NA
Lead	w	871216	2	3.50	3.50	3.54	0.0715	NA
Mercury	w	871216	2	0.11	0.11	0.13	0.0016	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	3.00	3.00	1.41	0.0004	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	14PB
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	Adjacent to mouth of Gunston Cove		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(1)	NA	NA	2.00	2.00	871216	2
Cadmium	w	87-87	2(2)	NA	NA	4.00	4.00	871216	2
Chromium	w	87-87	2(0)	NA	NA	7.00	7.00	871216	2
Copper	w	87-87	2(0)	NA	NA	6.00	6.00	871216	2
Lead	w	87-87	2(0)	NA	NA	1.50	2.00	871216	1
Mercury	w	87-87	2(1)	NA	NA	0.11	0.20	870916	1
Nickel	w	87-87	2(2)	NA	NA	15.00	15.00	871216	2
Zinc	w	87-87	2(1)	NA	NA	5.50	9.00	870916	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.00	6.00	0.00	0.0046	NA
Lead	w	871216	2	1.50	1.50	0.71	0.0306	NA
Mercury	w	871216	2	0.11	0.11	0.13	0.0016	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	5.50	5.50	4.95	0.0007	NA

<u>River</u>	Potomac River	<u>Station</u>	14PS
<u>R. Mile</u>		<u>Agency</u>	FCDPW
<u>Location</u>	Adjacent to mouth of Gunston Cove		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	87-87	2(1)	NA	NA	2.00	2.00	871216	2
Cadmium	w	87-87	2(2)	NA	NA	4.00	4.00	871216	2
Chromium	w	87-87	2(0)	NA	NA	7.00	7.00	871216	2
Copper	w	87-87	2(0)	NA	NA	6.00	6.00	871216	2
Lead	w	87-87	2(0)	NA	NA	2.50	3.00	870916	1
Mercury	w	87-87	2(2)	NA	NA	0.02	0.02	871216	2
Nickel	w	87-87	2(2)	NA	NA	15.00	15.00	871216	2
Zinc	w	87-87	2(1)	NA	NA	4.00	6.00	870916	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	871216	2	2.00	2.00	0.00	NA	858
Cadmium	w	871216	2	4.00	4.00	0.00	0.3945	NA
Chromium	w	871216	2	7.00	7.00	0.00	0.0400	NA
Copper	w	871216	2	6.00	6.00	0.00	0.0046	NA
Lead	w	871216	2	2.50	2.50	0.71	0.0511	NA
Mercury	w	871216	2	0.02	0.02	0.00	0.0003	NA
Nickel	w	871216	2	15.00	15.00	0.00	0.0429	NA
Zinc	w	871216	2	4.00	4.00	2.83	0.0005	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	514019
<u>R. Mile</u>	80.7	<u>Agency</u>	DCCRA
<u>Location</u>	Hallowing Point, Virginia		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Phenols	w	73-74	6(0)	NA	NA	9.00	15.00	740318	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Phenols	w	740318	5	10.00	9.60	4.56	0.0029	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VI. POTOMAC URBAN ESTUARY

<u>River</u>	Potomac Estuary	<u>Station</u>	XEA6596
<u>R. Mile</u>	569.6	<u>Agency</u>	21MDOEP
<u>Location</u>	Off Indian Head Station		

TREND, PERIOD OF RECORD

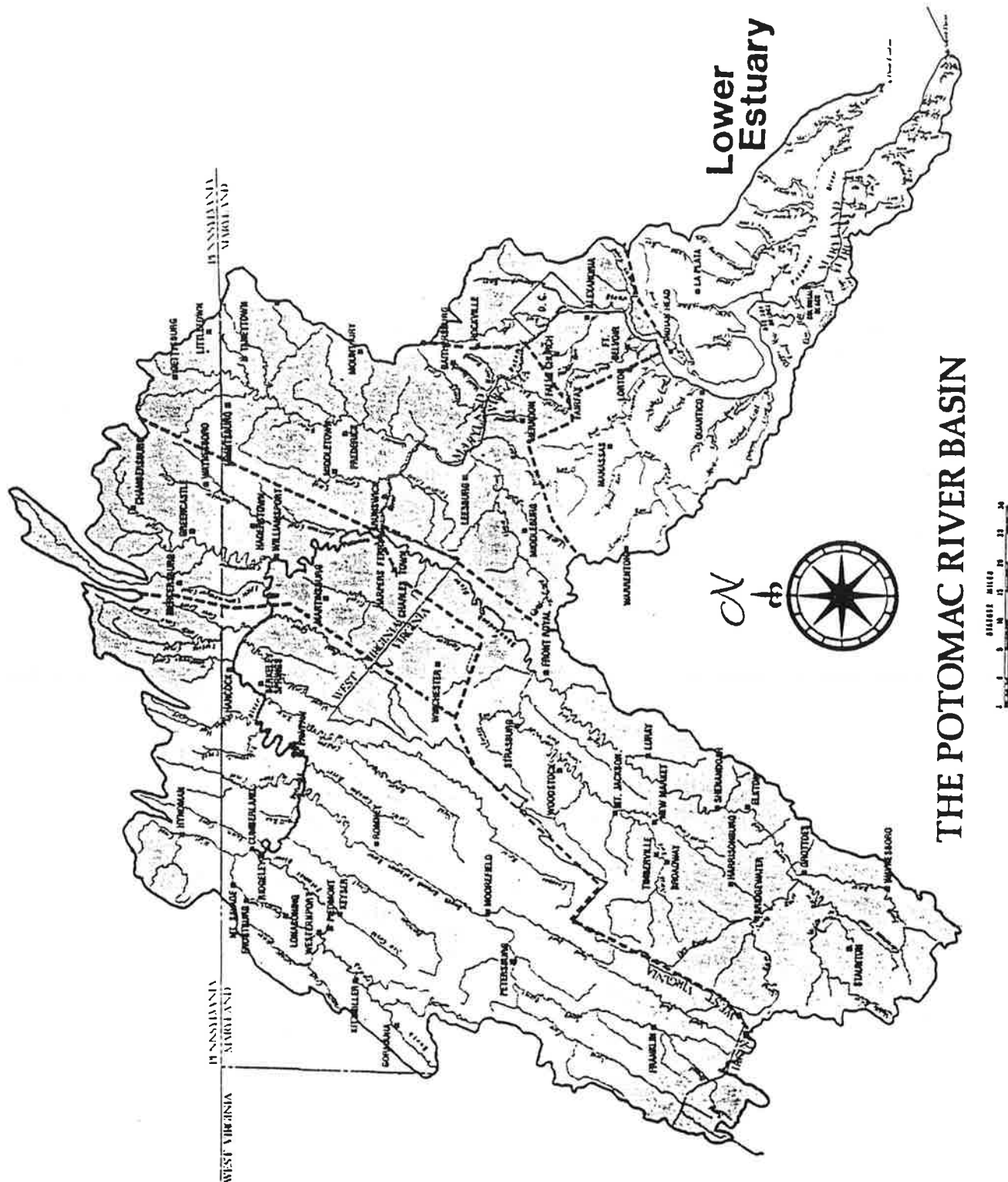
Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	78-84	13(3)	0.01	0.500	0.14	0.30	811015	1
Cadmium	f	78-86	18(0)	-0.02	0.150	0.27	0.67	850923	1
Chromium	w	78-86	18(9)	0.07	0.500	0.50	1.00	841031	1
Copper	f	78-86	18(2)	0.24	0.500	1.40	27.00	811015	1
Lead	f	78-86	18(5)	-0.13	0.500	1.20	5.10	841031	1
Mercury	f	78-86	18(0)	-0.01	0.150	0.04	0.15	860429	1
Zinc	f	78-86	18(0)	-1.33	0.500	16.00	34.00	821109	1
Alpha BHC	f	78-86	19(8)	0.00	0.270	0.00	0.01	821109	1
Gamma BHC(Lindane)	f	78-86	19(10)	0.00	0.270	0.00	0.01	821109	1
Chlordane	f	78-86	19(1)	-0.01	0.500	0.13	1.10	860429	1
Dieldrin	f	78-86	19(3)	0.00	0.500	0.00	0.03	860429	1
Endrin	f	78-86	19(19)	0.00	0.500	0.00	0.00	860429	19
Heptachlor Epoxide	f	78-86	19(10)	0.00	0.270	0.00	0.01	860429	1
Hexachlorobenzene	f	85-86	5(1)	NA	NA	0.00	0.00	860429	1
PCB-1242	f	85-86	5(0)	NA	NA	0.05	0.06	860429	2
PCB-1254	f	85-86	5(0)	NA	NA	0.08	0.22	860429	1
PCB1260	f	85-86	5(0)	NA	NA	0.15	1.20	860429	1
PCB's	f	78-86	19(0)	-0.03	0.500	0.32	1.50	860429	1
P,P'DDD	f	78-86	19(1)	-0.01	0.150	0.02	0.20	860429	1
P,P'DDE	f	78-86	19(0)	-0.01	0.500	0.03	0.16	860429	1
P,P'DDT	f	78-86	19(17)	0.00	0.270	0.00	0.01	781003	2
Toxaphene	f	78-86	19(19)	0.00	0.500	0.01	0.01	860429	19

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	841031	3	0.14	0.15	0.04	NA	195
Cadmium	f	860429	5	0.20	0.30	0.23	0.0641	NA
Chromium	w	860429	5	0.50	0.50	0.00	0.0029	NA
Copper	f	860429	5	1.40	1.24	0.56	0.0035	NA
Lead	f	860429	5	0.80	1.26	1.02	0.0531	NA
Mercury	f	860429	5	0.05	0.05	0.06	0.0021	NA
Zinc	f	860429	5	2.50	7.20	7.17	0.0011	NA
Alpha BHC	f	860429	5	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	860429	5	0.00	0.00	0.00	NA	NA
Chlordane	f	860429	5	0.10	0.30	0.45	0.1858	15
Dieldrin	f	860429	5	0.01	0.01	0.01	NA	14
Endrin	f	860429	5	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	860429	5	0.00	0.00	0.00	0.0062	NA
Hexachlorobenzene	f	860429	5	0.00	0.00	0.00	NA	NA
PCB-1242	f	860429	5	0.05	0.04	0.02	NA	20
PCB-1254	f	860429	5	0.08	0.12	0.07	NA	32
PCB1260	f	860429	5	0.15	0.36	0.47	NA	60
PCB's	f	860429	5	0.32	0.53	0.55	NA	129
P,P'DDD	f	860429	5	0.05	0.09	0.08	NA	NA
P,P'DDE	f	860429	5	0.03	0.06	0.06	NA	NA
P,P'DDT	f	860429	5	0.00	0.00	0.00	NA	NA
Toxaphene	f	860429	5	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

VII. LOWER POTOMAC ESTUARY



STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

VII. LOWER POTOMAC ESTUARY

The lower Potomac estuary includes 75 miles (121 km) of the main stem Potomac River from Indian Head, Maryland to its mouth at Point Lookout, Maryland and Smith Point, Virginia. The combined flow from the Potomac's 14,670 sq mi (37,980 sq km) basin enters the Chesapeake Bay as it leaves the Lower Potomac Estuary subdivision. Data from the following stream reaches were analyzed:

- Potomac River Estuary
- Occoquan River
- Mattawoman Creek
- Quantico Creek
- Smaller Virginia Tributaries
- Smaller Maryland Tributaries

The lower Potomac drains Charles and St. Mary's counties in Maryland, and Prince William, Stafford, King George, Westmoreland, and Northumberland counties in Virginia.

Estuaries are the meeting place of fresh and salt water, where the salinity and flow of water are constantly influenced by river inflow and tides. This complex aquatic environment makes estuaries extremely difficult to predict and understand -- physically, chemically, and biologically. The Potomac estuary is divided into three segments: (1) the tidal Potomac River which is affected by tides but is totally fresh water; (2) the transition zone where fresh river water mixes with the brackish (slightly salty) water from Chesapeake Bay; and (3) the lower estuary which is almost as salty as Chesapeake Bay and supports saltwater marine life. The Lower Potomac Estuary sub-basin includes the transition zone and the lower estuary. The basin is relatively narrow in this area and is characterized by short tributaries.

Potomac River Estuary

No significant trends were determined for toxic parameters in data from the 22 stations for which data were available for the Potomac main stem (see tables pp. VII-7, 30, 34-37, 44-45, 47, 55-58, 65-67, 70, 74). However, for those stations where Arsenic and Cadmium were sampled, their concentrations (often reported as being at or below the limit of detection) indicated potential human health risk. Human health risk indicators are less meaningful in the main stem of the lower estuary because of its unlikely use as a drinking water source.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

PCB's were found in fish tissue at levels of potential cancer risk at all stations from near Quantico, Virginia, to the mouth of the river. Chlordane and Dieldrin were also found in fish tissue at levels indicating potential risk to humans from cancer at most of the lower Potomac stations. Maryland state water quality standards did not appear to be violated for those parameters with assigned criteria.

Occoquan River

The Occoquan catchment contains both a regional sewage treatment plant and a water supply reservoir serving Fairfax County, Virginia. Water quality data were available for 21 stations in the Occoquan and its tributaries (see tables pp. VII-7 to VII-18):

Cedar Run
Flat Branch
Cub Run
Big Rocky Run
Bull Run
Massey Creek
Belmont Bay

Almost all of the data for the Occoquan and its tributaries was from the 1970's. However, more recent data (including sediment data) were available from a station near the mouth of the Occoquan and from the station in Belmont Bay. None of the data from the Occoquan River catchment indicated significant trends for any of the parameters analyzed. A potential human health hazard was indicated from Lead in Cedar Run, and from Cadmium in the Occoquan. Human risk of cancer was indicated in the Occoquan from Arsenic. Apparent violations of Virginia state water quality standards were indicated for Aldrin in the Occoquan and in Belmont Bay.

Mattawoman Creek

Mattawoman Creek has recently been the subject of a special water quality study by the Maryland Department of the Environment. However, the data available for this analysis from 13 stations (see tables pp. VII-23 to VII-29) was entirely from the early 1970's. No significant trends, human health hazards or risks, or Maryland water quality standards violations were indicated by the data.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

Quantico Creek

Water quality data were available from the 1980's for most of the 6 stations in the Quantico Creek catchment, including the South Fork Quantico Creek (see tables pp. VII-31 to VII-34). Recent sediment data were available for the most downstream station. Although no significant trends were indicated in the data, a potential human health hazard was indicated for Lead at three stations. Virginia state water quality standards were violated by Zinc and Lead concentrations at 1 and 2 stations respectively.

Smaller Virginia Tributaries

The smaller tributaries in Virginia for which data were available included 35 stations on:

Neabsco Creek
Powells Creek
Chopawamsic Creek
Aquia Creek
Accokeek Creek
Potomac Creek
Gambo Creek
Williams Creek
Upper Machodoc Creek
Monroe Creek
Pine Hill Creek
Nomini Creek
Lower Machodoc Creek
Yeocomo River
Coan River

Lead was determined to have a significant decreasing trend in Aquia Creek; Nickel was determined to have a large increasing trend in Williams Creek and Upper Machodoc Creek. Arsenic data indicated potential cancer risk in Gambo Creek and Upper Machodoc Creek. Concentrations of Cadmium above the limit of detection indicated potential human health risk in Accokeek Creek, Williams Creek, and Upper Machodoc Creek. Fish tissue data indicated human cancer risk in Lower Machodoc Creek. Virginia state water quality standards appeared to be violated by Cadmium in Williams Creek and Upper Machodoc Creek.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

Smaller Maryland Tributaries

The smaller tributaries in Maryland for which data were available included 27 stations on:

Wards Run
Nanjemoy Creek
Mill Run
Port Tobacco Creek
Jordan Swamp
Zekiah Swamp Run
Allens Fresh Run
Gilbert Creek
Brooks Run
McIntosh Run
St. Clement Bay
Lake Conoy
Unnamed Tributaries

No significant trends, potential human health hazards, or state water quality standards violations were determined from the toxic water quality parameter data from any of the Maryland tributaries to the lower Potomac estuary.

Summary

Trend

Relatively few trends were determined from the data from the 123 stations of the Lower Potomac Estuary subdivision. Lead showed a decreasing trend in Aquia Creek, and Nickel showed significant increasing trends in Williams Creek and Upper Machodoc Creek. No significant trends were determined for the data from the Occoquan River, Mattawoman Creek, Quantico Creek, and the smaller Maryland tributaries. Among the smaller Virginia tributaries, Lead was determined to have a significant decreasing trend in Aquia Creek; Nickel was determined to have a large increasing trend in Williams Creek and Upper Machodoc Creek.

Human Health

For those stations on the Potomac main stem where Arsenic and Cadmium were sampled, their concentrations (often reported as being at or below the limit of detection) indicated potential human health risk. Human health risk indicators for water are less meaningful in the main stem of the lower estuary because of its unlikely use as a drinking water source. PCB's were found

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

in fish tissue at levels of potential cancer risk at all stations from near Quantico, Virginia, to the mouth of the river. Chlordane and Dieldrin were also found in fish tissue at levels indicating potential risk to humans from cancer at most of the lower Potomac stations. In the Occoquan catchment, human health hazard was indicated from Lead in Cedar Run and from Cadmium in the Occoquan. Human risk of cancer was indicated in the Occoquan from Arsenic. A potential Health hazard was indicated from Lead at 3 stations in the Quantico Creek catchment. Among the smaller Virginia tributaries, Arsenic data indicated potential cancer risk in Gambo Creek and Upper Machodoc Creek. Concentrations of Cadmium above the limit of detection indicated potential human health risk in Accokeek Creek, Williams Creek, and Upper Machodoc Creek. Fish tissue data indicated human cancer risk in Lower Machodoc Creek.

Toxic Status/Standards Exceedance

Apparent violations of Virginia state water quality standards were indicated for Aldrin in the Occoquan River and in Belmont Bay. Virginia water quality standards were also violated by Zinc and Lead concentrations at 1 and 2 stations respectively in the Quantico Creek catchment; and by Cadmium in Williams Creek and Upper Machodoc Creek.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	1APOT101.15
<u>R. Mile</u>	101.15	<u>Agency</u>	VASWCB
<u>Location</u>	Buoy 75 at Sheridan Pt., Prince George Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-77	4(4)	NA	NA	2.90	5.00	720521	1
Cadmium	w	72-77	6(6)	NA	NA	10.00	10.00	770628	5
Chromium	w	72-77	8(8)	0.00	0.500	10.00	10.00	770628	8
Copper	w	72-77	8(8)	0.00	0.500	10.00	10.00	770628	8
Lead	w	72-77	7(4)	NA	NA	10.00	10.00	740506	5
Mercury	w	72-77	7(7)	0.00	0.500	0.50	0.50	770628	1
Zinc	w	72-77	7(2)	0.00	0.500	10.00	29.99	720809	1
Endrin	w	74-74	1(0)	NA	NA	0.10	0.10	740506	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770628	1	2.00	2.00	0.00	NA	858
Cadmium	w	770628	1	10.00	10.00	0.00	0.9861	NA
Chromium	w	770628	1	10.00	10.00	0.00	0.0572	NA
Copper	w	770628	1	10.00	10.00	0.00	0.0077	NA
Lead	w	770628	1	6.00	6.00	0.00	0.1226	NA
Mercury	w	770628	1	0.50	0.50	0.00	0.0072	NA
Zinc	w	770628	1	19.99	19.99	0.00	0.0027	NA
Endrin	w	740506	1	0.10	0.10	0.00	NA	NA

<u>River</u>	Cedar Run	<u>Station</u>	1ACER032.15
<u>R. Mile</u>	032.15	<u>Agency</u>	VASWCB
<u>Location</u>	Route 672 Bridge, Fauquier Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-79	6(5)	-0.33	0.270	2.00	3.00	751002	1
Cadmium	w	75-79	7(7)	0.00	0.270	10.00	10.00	790425	3
Chromium	w	75-79	7(6)	0.00	0.270	10.00	10.00	790425	3
Copper	w	75-79	7(7)	0.00	0.270	10.00	10.00	790425	3
Lead	w	75-79	7(2)	1.33	0.500	8.00	56.00	790425	1
Mercury	w	75-79	7(4)	-0.43	0.150	0.50	1.60	751002	1
Zinc	w	75-79	7(6)	0.00	0.270	10.00	10.00	790425	3

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790425	2	1.50	1.50	0.71	NA	644
Cadmium	w	790425	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	790425	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790425	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790425	2	34.00	34.00	31.11	0.6946	NA
Mercury	w	790425	2	0.30	0.30	0.00	0.0043	NA
Zinc	w	790425	2	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Cedar Run	<u>Station</u>	1ACER016.46
<u>R. Mile</u>	016.46	<u>Agency</u>	VASWCB
<u>Location</u>	Route 806 Bridge, Fauquier Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-79	6(5)	0.00	0.500	2.00	3.00	750930	1
Cadmium	w	75-79	7(7)	0.00	0.270	10.00	10.00	790419	3
Chromium	w	75-79	7(7)	0.00	0.270	10.00	10.00	790419	3
Copper	w	75-79	7(5)	0.00	0.270	10.00	10.00	790419	3
Lead	w	75-79	7(4)	0.50	0.500	2.00	12.00	780415	1
Mercury	w	75-79	7(7)	-0.10	0.150	0.50	0.50	771115	4
Zinc	w	75-79	7(4)	5.01	0.500	10.00	399.90	750501	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790419	2	2.00	2.00	0.00	NA	858
Cadmium	w	790419	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	790419	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790419	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790419	2	3.50	3.50	2.12	0.0715	NA
Mercury	w	790419	2	0.30	0.30	0.00	0.0043	NA
Zinc	w	790419	2	20.00	20.00	14.14	0.0027	NA

<u>River</u>	Cedar Run	<u>Station</u>	1ACER000.20
<u>R. Mile</u>	000.20	<u>Agency</u>	VASWCB
<u>Location</u>	Route 619 Bridge, Prince William Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-75	5(4)	NA	NA	5.00	9.00	730731	1
Cadmium	w	71-75	8(5)	-0.50	0.270	10.00	19.99	730731	1
Chromium	w	71-75	10(10)	0.00	0.500	10.00	10.00	750930	10
Copper	w	71-75	11(5)	0.00	0.270	10.00	19.99	710805	1
Lead	w	71-75	9(5)	0.00	0.270	10.00	29.99	730731	1
Mercury	w	71-75	10(8)	0.00	0.190	0.50	1.50	750501	1
Zinc	w	71-75	10(3)	3.33	0.150	14.99	359.90	730731	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	750930	1	3.00	3.00	0.00	NA	1287
Cadmium	w	750930	2	7.00	7.00	4.24	0.6903	NA
Chromium	w	750930	2	10.00	10.00	0.00	0.0572	NA
Copper	w	750930	2	10.00	10.00	0.00	0.0077	NA
Lead	w	750930	2	8.49	8.49	3.53	0.1735	NA
Mercury	w	750930	2	1.00	1.00	0.71	0.0143	NA
Zinc	w	750930	2	44.99	44.99	35.36	0.0061	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Occoquan River	<u>Station</u>	1A0CC024.74
<u>R. Mile</u>	024.74	<u>Agency</u>	VASWCB
<u>Location</u>	Route 234 Bridge, Prince William Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-72	2(2)	NA	NA	5.00	5.00	720508	2
Cadmium	w	72-72	3(3)	NA	NA	10.00	10.00	720802	3
Chromium	w	72-72	4(3)	NA	NA	10.00	19.99	720130	1
Copper	w	72-72	4(2)	NA	NA	10.00	10.00	721016	4
Lead	w	72-72	4(3)	NA	NA	10.00	10.00	721016	4
Mercury	w	72-72	4(4)	NA	NA	0.50	0.50	721016	4
Zinc	w	72-72	4(2)	NA	NA	14.99	69.99	720130	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	720508	2	5.00	5.00	0.00	NA	2145
Cadmium	w	720802	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	721016	4	10.00	12.50	5.00	0.0572	NA
Copper	w	721016	4	10.00	10.00	0.00	0.0077	NA
Lead	w	721016	4	10.00	10.00	0.00	0.2043	NA
Mercury	w	721016	4	0.50	0.50	0.00	0.0071	NA
Zinc	w	721016	4	14.99	27.49	28.72	0.0020	NA

<u>River</u>	Occoquan River	<u>Station</u>	1A0CC019.36
<u>R. Mile</u>	019.36	<u>Agency</u>	VASWCB
<u>Location</u>	Route 663 Bridge, Prince William Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-72	2(2)	NA	NA	5.00	5.00	720502	2
Cadmium	w	71-72	4(4)	NA	NA	10.00	10.00	720830	4
Chromium	w	71-72	4(4)	NA	NA	10.00	10.00	720830	4
Copper	w	71-72	5(2)	NA	NA	10.00	19.99	710805	1
Lead	w	71-72	4(3)	NA	NA	10.00	10.00	720830	4
Mercury	w	71-72	4(4)	NA	NA	0.50	0.50	720830	4
Zinc	w	71-72	4(2)	NA	NA	10.00	19.99	720811	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	720502	2	5.00	5.00	0.00	NA	2145
Cadmium	w	720830	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	720830	3	10.00	10.00	0.00	0.0572	NA
Copper	w	720830	3	10.00	10.00	0.00	0.0077	NA
Lead	w	720830	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	720830	3	0.50	0.50	0.00	0.0071	NA
Zinc	w	720830	3	10.00	13.33	5.77	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Occoquan Creek	<u>Station</u>	101034
<u>R. Mile</u>	83.3-18.42	<u>Agency</u>	DCCRA
<u>Location</u>	9.8 Miles Above The High Dam In The Occoquan Reservoir		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Copper	w	80-81	19(10)	NA	NA	50.00	190.00	810225	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Copper	w	811119	13	50.00	49.84	47.72	0.0386	NA

<u>River</u>	Flat Branch	<u>Station</u>	1AFLB001.40
<u>R. Mile</u>	001.40	<u>Agency</u>	VASWCB
<u>Location</u>	Route 1530 Bridge, Manassas, Prince William Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	77-77	1(1)	NA	NA	2.00	2.00	770315	1
Cadmium	w	75-77	2(2)	NA	NA	11.99	13.99	750501	1
Chromium	w	75-77	2(1)	NA	NA	10.00	10.00	770315	2
Copper	w	75-77	2(2)	NA	NA	10.00	10.00	770315	2
Lead	w	75-77	2(0)	NA	NA	27.50	47.99	750501	1
Mercury	w	75-77	2(1)	NA	NA	1.95	3.10	770315	1
Zinc	w	75-77	2(2)	NA	NA	5.02	10.00	770315	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770315	1	2.00	2.00	0.00	NA	858
Cadmium	w	770315	1	10.00	10.00	0.00	0.9861	NA
Chromium	w	770315	1	10.00	10.00	0.00	0.0572	NA
Copper	w	770315	1	10.00	10.00	0.00	0.0077	NA
Lead	w	770315	1	7.00	7.00	0.00	0.1430	NA
Mercury	w	770315	1	3.10	3.10	0.00	0.0443	NA
Zinc	w	770315	1	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Flat Branch	<u>Station</u>	1AFLB000.64
<u>R. Mile</u>	000.64	<u>Agency</u>	VASWCB
<u>Location</u>	Route 1501 Bridge, Manassas, Prince William Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	77-77	1(1)	NA	NA	2.00	2.00	770315	1
Cadmium	w	75-75	1(1)	NA	NA	32.99	32.99	750501	1
Chromium	w	75-77	2(1)	NA	NA	10.00	10.00	770315	2
Copper	w	75-77	2(2)	NA	NA	10.00	10.00	770315	2
Lead	w	75-77	2(0)	NA	NA	7.00	10.00	750501	1
Mercury	w	75-77	2(0)	NA	NA	2.25	3.60	770315	1
Zinc	w	75-77	2(1)	NA	NA	19.99	29.99	770315	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770315	1	2.00	2.00	0.00	NA	858
Cadmium	w	750501	1	32.99	32.99	0.00	3.2535	NA
Chromium	w	770315	1	10.00	10.00	0.00	0.0572	NA
Copper	w	770315	1	10.00	10.00	0.00	0.0077	NA
Lead	w	770315	1	4.00	4.00	0.00	0.0817	NA
Mercury	w	770315	1	3.60	3.60	0.00	0.0515	NA
Zinc	w	770315	1	29.99	29.99	0.00	0.0041	NA

<u>River</u>	Cub Run	<u>Station</u>	1ACUB003.74
<u>R. Mile</u>	003.74	<u>Agency</u>	VASWCB
<u>Location</u>	Route 29/211 Bridge, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-79	6(5)	-0.50	0.270	2.00	3.00	750930	1
Cadmium	w	74-79	8(8)	0.00	0.270	10.00	10.00	790419	3
Chromium	w	74-79	8(8)	0.00	0.270	10.00	10.00	790419	3
Copper	w	74-79	8(8)	0.00	0.270	10.00	10.00	790419	3
Lead	w	74-79	11(3)	0.50	0.270	6.00	30.99	750501	1
Mercury	w	74-79	8(7)	-0.10	0.150	0.50	0.50	771115	5
Zinc	w	74-79	8(7)	0.00	0.270	10.00	10.00	790419	3

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790419	2	1.50	1.50	0.71	NA	644
Cadmium	w	790419	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	790419	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790419	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790419	2	3.00	3.00	1.41	0.0613	NA
Mercury	w	790419	2	0.30	0.30	0.00	0.0043	NA
Zinc	w	790419	2	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Big Rocky Run	<u>Station</u>	LABIRO00.76
<u>R. Mile</u>	000.76	<u>Agency</u>	VASWCB
<u>Location</u>	Route 29/211 Bridge, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-79	6(5)	0.00	0.500	2.00	3.00	750930	1
Cadmium	w	75-79	6(6)	0.00	0.270	10.00	10.00	790419	3
Chromium	w	75-79	6(6)	0.00	0.270	10.00	10.00	790419	3
Copper	w	75-79	6(6)	0.00	0.270	10.00	10.00	790419	3
Lead	w	75-79	6(3)	0.50	0.500	2.50	6.00	781108	1
Mercury	w	75-79	6(6)	-0.10	0.150	0.50	0.50	771115	3
Zinc	w	75-79	6(3)	0.00	0.270	10.00	10.00	790419	3

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790419	2	2.00	2.00	0.00	NA	858
Cadmium	w	790419	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	790419	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790419	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790419	2	4.00	4.00	2.83	0.0817	NA
Mercury	w	790419	2	0.30	0.30	0.00	0.0043	NA
Zinc	w	790419	2	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Bull Run	<u>Station</u>	LABULO11.03
<u>R. Mile</u>	011.03	<u>Agency</u>	VASWCB
<u>Location</u>	Gage Sta. Old Centerville Rd., Pr. Wm. Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-79	9(8)	NA	NA	2.00	6.00	730731	1
Cadmium	w	71-79	12(9)	5.00	0.270	10.00	19.99	730810	1
Chromium	w	71-79	14(12)	0.00	0.500	10.00	10.00	790327	2
Copper	w	71-79	14(9)	0.00	0.500	10.00	29.99	710805	1
Lead	w	71-79	13(4)	0.00	0.500	10.00	59.99	710805	1
Mercury	w	71-79	14(12)	0.00	0.230	0.50	0.70	750501	1
Zinc	w	71-79	14(7)	0.00	0.500	10.00	449.90	730731	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790327	2	2.00	2.00	0.00	NA	858
Cadmium	w	790327	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	790327	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790327	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790327	2	7.50	7.50	2.12	0.1532	NA
Mercury	w	790327	2	0.30	0.30	0.00	0.0043	NA
Zinc	w	790327	2	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Bull Run	<u>Station</u>	1ABUL001.57
<u>R. Mile</u>	001.57	<u>Agency</u>	VASWCB
<u>Location</u>	Route 612 Bridge, Prince William Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-73	4(3)	NA	NA	4.00	5.00	720502	2
Cadmium	w	71-73	6(3)	-4.50	0.270	10.00	10.00	720830	4
Chromium	w	71-74	8(7)	0.00	0.500	10.00	10.00	740528	8
Copper	w	71-74	9(2)	20.00	0.500	19.99	119.90	720830	1
Lead	w	71-74	7(5)	0.00	0.500	10.00	19.99	730731	1
Mercury	w	71-74	8(8)	0.00	0.500	0.50	0.50	740528	8
Zinc	w	71-74	8(5)	0.00	0.270	10.00	199.90	730731	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730810	2	2.00	2.00	1.41	NA	858
Cadmium	w	730810	4	7.00	6.25	4.50	0.6902	NA
Chromium	w	740528	3	10.00	10.00	0.00	0.0572	NA
Copper	w	740528	3	19.99	39.99	43.59	0.0155	NA
Lead	w	740528	3	10.00	13.33	5.77	0.2043	NA
Mercury	w	740528	3	0.50	0.50	0.00	0.0071	NA
Zinc	w	740528	3	19.99	76.63	106.87	0.0027	NA

<u>River</u>	Bull Run	<u>Station</u>	101035
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	0.3 Miles Above The Confluence Of Bull Run & Occoquan Cr.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Copper	w	80-81	32(16)	NA	NA	50.00	280.00	810220	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Copper	w	811117	31	50.00	44.97	48.88	0.0386	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Occoquan River	<u>Station</u>	1A0CC014.34
<u>R. Mile</u>	014.34	<u>Agency</u>	VASWCB
<u>Location</u>	Above Ryan's Dam, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-73	6(5)	NA	NA	5.00	9.00	730731	1
Cadmium	w	71-73	7(6)	-4.50	0.270	10.00	10.00	720811	5
Chromium	w	71-74	8(6)	0.00	0.500	10.00	29.99	710719	1
Copper	w	71-74	8(2)	12.50	0.500	10.00	89.99	710719	1
Lead	w	71-74	8(8)	0.00	0.500	10.00	10.00	740528	8
Mercury	w	71-74	8(7)	0.00	0.500	0.50	0.70	730731	1
Zinc	w	71-74	8(6)	0.00	0.500	10.00	49.99	730731	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730810	2	5.00	5.00	5.66	NA	2145
Cadmium	w	730810	3	1.00	4.00	5.20	0.0986	NA
Chromium	w	740528	3	10.00	10.00	0.00	0.0572	NA
Copper	w	740528	3	10.00	23.33	23.09	0.0077	NA
Lead	w	740528	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740528	3	0.50	0.57	0.11	0.0071	NA
Zinc	w	740528	3	10.00	23.33	23.09	0.0014	NA

<u>River</u>	Occoquan River	<u>Station</u>	1A0CC011.88
<u>R. Mile</u>	011.88	<u>Agency</u>	VASWCB
<u>Location</u>	Jacob's Rock, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-73	6(5)	NA	NA	5.00	5.00	720502	4
Cadmium	w	71-73	7(6)	-4.50	0.270	10.00	10.00	720811	5
Chromium	w	71-74	8(7)	0.00	0.500	10.00	10.00	740528	8
Copper	w	71-74	8(1)	39.98	0.500	29.99	699.90	740528	1
Lead	w	71-74	8(7)	0.00	0.500	10.00	10.00	740528	8
Mercury	w	71-74	8(7)	0.00	0.500	0.50	0.70	730731	1
Zinc	w	71-74	8(6)	0.00	0.500	10.00	169.90	730731	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730810	2	2.00	2.00	1.41	NA	858
Cadmium	w	730810	3	1.00	4.00	5.20	0.0986	NA
Chromium	w	740528	3	10.00	10.00	0.00	0.0572	NA
Copper	w	740528	3	139.90	283.27	366.62	0.1081	NA
Lead	w	740528	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740528	3	0.50	0.57	0.12	0.0071	NA
Zinc	w	740528	3	10.00	63.30	92.32	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Occoquan River	<u>Station</u>	1A0CC008.80
<u>R. Mile</u>	008.80	<u>Agency</u>	VASWCB
<u>Location</u>	Under Power Line, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-73	5(5)	NA	NA	5.00	5.00	720502	3
Cadmium	w	71-73	6(5)	-4.50	0.270	10.00	10.00	720811	4
Chromium	w	71-74	7(5)	0.00	0.500	10.00	49.99	710719	1
Copper	w	71-74	7(2)	99.95	0.270	10.00	209.90	730810	1
Lead	w	71-74	7(7)	0.00	0.500	10.00	10.00	740528	7
Mercury	w	71-74	7(7)	0.00	0.500	0.50	0.50	740528	7
Zinc	w	71-74	7(5)	0.00	0.500	10.00	309.90	730731	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730810	2	1.00	1.00	0.00	NA	429
Cadmium	w	730810	3	2.00	4.33	4.93	0.1971	NA
Chromium	w	740528	3	10.00	10.00	0.00	0.0572	NA
Copper	w	740528	3	119.90	110.27	104.78	0.0927	NA
Lead	w	740528	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740528	3	0.50	0.50	0.00	0.0071	NA
Zinc	w	740528	3	10.00	109.97	173.15	0.0014	NA

<u>River</u>	Occoquan River	<u>Station</u>	1A0CC008.11
<u>R. Mile</u>	008.11	<u>Agency</u>	VASWCB
<u>Location</u>	Under Power Line at Dam, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-73	6(6)	NA	NA	5.00	5.00	720502	4
Cadmium	w	71-73	7(7)	-4.50	0.270	10.00	10.00	720811	5
Chromium	w	71-74	8(5)	0.00	0.500	10.00	10.00	740528	8
Copper	w	71-74	8(1)	64.95	0.500	29.99	179.90	730810	1
Lead	w	71-74	8(7)	0.00	0.500	10.00	10.00	740528	8
Mercury	w	71-74	8(8)	0.00	0.500	0.50	0.50	740528	8
Zinc	w	71-74	8(6)	0.00	0.500	10.00	49.99	730731	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730810	2	1.00	1.00	0.00	NA	429
Cadmium	w	730810	3	1.00	4.00	5.20	0.0986	NA
Chromium	w	740528	3	10.00	10.00	0.00	0.0572	NA
Copper	w	740528	3	109.90	99.93	85.39	0.0849	NA
Lead	w	740528	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740528	3	0.50	0.50	0.00	0.0071	NA
Zinc	w	740528	3	10.00	23.33	23.09	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Occoquan Creek	<u>Station</u> 1AOCC006.71
<u>R. Mile</u>	87.39-6.71	<u>Agency</u> VASWCB
<u>Location</u>	Route 123 Bridge, Prince William Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-85	4(0)	NA	NA	7.75	10.30	810422	1
Arsenic	w	75-85	11(8)	0.00	0.500	2.00	13.99	751020	1
Beryllium	w	83-85	2(1)	NA	NA	1.50	2.00	851021	1
Cadmium	s	80-85	4(4)	NA	NA	0.20	0.26	810422	1
Cadmium	w	75-85	12(10)	0.00	0.270	10.00	10.00	791024	4
Chromium	w	75-85	12(10)	0.00	0.270	10.00	10.00	810916	5
Chromium	s	80-85	4(0)	NA	NA	30.30	39.90	851021	1
Copper	s	80-85	4(0)	NA	NA	73.80	116.00	810422	1
Copper	w	75-85	12(9)	0.00	0.270	10.00	20.00	840709	1
Lead	s	80-85	4(0)	NA	NA	43.85	47.60	820517	1
Lead	w	75-85	12(4)	0.00	0.500	3.50	20.00	810916	1
Mercury	s	80-85	4(3)	NA	NA	0.12	0.20	810422	1
Mercury	w	75-85	11(10)	-0.10	0.150	0.30	0.50	771118	4
Nickel	s	80-85	4(0)	NA	NA	8.22	10.00	851021	1
Nickel	w	79-85	5(3)	NA	NA	10.00	50.00	850708	1
Selenium	w	83-85	2(1)	NA	NA	1.50	2.00	851021	1
Zinc	s	80-85	4(0)	NA	NA	52.95	67.10	810422	1
Zinc	w	75-85	12(7)	0.00	0.270	10.00	100.00	850708	1
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830606	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	851021	1	10.00	10.00	0.00	NA	NA
Arsenic	w	850708	2	1.00	1.00	0.00	NA	429
Beryllium	w	851021	1	2.00	2.00	0.00	0.1144	NA
Cadmium	s	851021	1	0.20	0.20	0.00	NA	NA
Cadmium	w	850708	2	2.00	2.00	1.41	0.1972	NA
Chromium	w	850708	2	1.50	1.50	0.71	0.0086	NA
Chromium	s	851021	1	39.90	39.90	0.00	NA	NA
Copper	s	851021	1	81.70	81.70	0.00	NA	NA
Copper	w	850708	2	15.00	15.00	7.07	0.0116	NA
Lead	s	851021	1	43.90	43.90	0.00	NA	NA
Lead	w	850708	2	2.50	2.50	0.71	0.0511	NA
Mercury	s	851021	1	0.10	0.10	0.00	NA	NA
Mercury	w	850708	2	0.30	0.30	0.00	0.0043	NA
Nickel	s	851021	1	10.00	10.00	0.00	NA	NA
Nickel	w	850708	2	35.00	35.00	21.21	0.1001	NA
Selenium	w	851021	1	2.00	2.00	0.00	0.0191	NA
Zinc	s	851021	1	63.80	63.80	0.00	NA	NA
Zinc	w	850708	2	55.00	55.00	63.64	0.0075	NA
Aldrin	w	830606	1	0.10	0.10	0.00	0.0953	33

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Occoquan Creek	<u>Station</u>	101037
<u>R. Mile</u>		<u>Agency</u>	DCCRA
<u>Location</u>	Occoquan-Woodbridge San.Dist.W.S. Intake Va.Hwy. 123 Bridge.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Copper	w	80-80	1(1)	NA	NA	100.00	100.00	800828	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Copper	w	800828	1	100.00	100.00	0.00	0.0773	NA

<u>River</u>	Massey Creek	<u>Station</u>	1AMAE000.75
<u>R. Mile</u>	000.75	<u>Agency</u>	VASWCB
<u>Location</u>	Harborview Sewage Treatment Plant, Fairfax Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-73	1(0)	NA	NA	6.00	-6.00	730802	1
Cadmium	w	72-73	2(1)	NA	NA	6.00	10.00	720802	1
Chromium	w	72-74	5(3)	NA	NA	10.00	10.00	740521	5
Copper	w	72-74	6(3)	NA	NA	10.00	29.99	730117	1
Lead	w	72-74	6(5)	NA	NA	10.00	10.00	740521	6
Mercury	w	72-74	6(5)	NA	NA	0.50	0.70	730117	1
Zinc	w	72-74	6(2)	NA	NA	19.99	59.99	730802	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730802	1	6.00	6.00	0.00	NA	2574
Cadmium	w	730802	1	2.00	2.00	0.00	0.1971	NA
Chromium	w	740521	3	10.00	10.00	0.00	0.0572	NA
Copper	w	740521	3	10.00	10.00	0.00	0.0077	NA
Lead	w	740521	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740521	3	0.50	0.50	0.00	0.0071	NA
Zinc	w	740521	3	29.99	33.33	25.16	0.0041	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Belmont Bay	<u>Station</u> 1A0CC002.47
<u>R. Mile</u>	87.39-3.00-2.47	<u>Agency</u> VASWCB
<u>Location</u>	Midway into Bay, Buoy 6, Fairfax Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-86	6(0)	-0.05	0.500	7.25	10.50	860811	1
Arsenic	w	72-86	10(6)	-0.50	0.270	1.00	5.00	720521	1
Beryllium	w	83-86	4(2)	NA	NA	2.05	2.50	840522	1
Cadmium	s	80-86	6(6)	0.02	0.500	0.20	0.25	840522	1
Cadmium	w	72-86	12(12)	0.00	0.500	5.50	10.00	791024	1
Chromium	w	72-86	14(11)	0.00	0.500	10.00	20.00	810916	1
Chromium	s	80-86	6(0)	-3.60	0.150	28.30	33.60	860811	1
Copper	s	80-86	6(0)	-1.00	0.500	36.10	42.00	860811	1
Copper	w	72-86	14(14)	0.00	0.500	10.00	10.00	860714	6
Lead	s	80-86	6(0)	-19.35	0.500	25.90	66.50	830505	1
Lead	w	72-86	13(8)	-0.50	0.500	6.00	23.00	810916	1
Mercury	s	80-86	6(1)	0.25	0.500	0.15	0.68	840522	1
Mercury	w	72-86	14(12)	0.00	0.500	0.50	0.70	730821	1
Nickel	s	80-86	6(0)	-3.15	0.150	17.10	21.20	820517	1
Nickel	w	79-86	6(3)	45.00	0.270	10.00	100.00	860714	1
Selenium	w	83-86	4(1)	NA	NA	2.25	4.20	860811	1
Zinc	s	80-86	6(0)	-11.35	0.150	77.60	105.00	860811	1
Zinc	w	72-86	14(8)	2.50	0.330	10.00	29.99	751017	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830505	1
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830606	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860811	2	8.25	8.25	3.18	NA	NA
Arsenic	w	860714	1	1.00	1.00	0.00	NA	429
Beryllium	w	860811	2	2.05	2.05	0.07	0.1173	NA
Cadmium	s	860811	2	0.20	0.20	0.01	NA	NA
Cadmium	w	860714	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	860714	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860811	2	24.95	24.95	12.23	NA	NA
Copper	s	860811	2	29.25	29.25	18.03	NA	NA
Copper	w	860714	1	10.00	10.00	0.00	0.0077	NA
Lead	s	860811	2	22.65	22.65	9.55	NA	NA
Lead	w	860714	1	1.00	1.00	0.00	0.0204	NA
Mercury	s	860811	2	0.13	0.13	0.04	NA	NA
Mercury	w	860714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860811	2	13.50	13.50	10.61	NA	NA
Nickel	w	860714	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860811	2	3.10	3.10	1.56	0.0296	NA
Zinc	s	860811	2	69.40	69.40	50.35	NA	NA
Zinc	w	860714	1	10.00	10.00	0.00	0.0014	NA
Aldrin	s	830505	1	0.02	0.02	0.00	NA	NA
Aldrin	w	830606	1	0.10	0.10	0.00	0.0953	33

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Neabsco Creek	<u>Station</u>	1ANEA009.12
<u>R. Mile</u>	009.12	<u>Agency</u>	VASWCB
<u>Location</u>	Route 640 Bridge, Prince William Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-79	6(5)	0.00	0.500	2.00	3.00	751020	1
Cadmium	w	75-79	7(7)	0.00	0.270	10.00	10.00	790425	3
Chromium	w	75-79	7(7)	0.00	0.270	10.00	10.00	790425	3
Copper	w	75-79	7(7)	0.00	0.270	10.00	10.00	790425	3
Lead	w	75-79	7(0)	5.50	0.500	11.99	14.00	780413	1
Mercury	w	75-79	6(5)	-0.10	0.150	0.50	0.70	751020	1
Zinc	w	75-79	7(2)	0.00	0.270	10.00	30.00	781128	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790425	2	2.00	2.00	0.00	NA	858
Cadmium	w	790425	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	790425	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790425	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790425	2	12.50	12.50	0.71	0.2554	NA
Mercury	w	790425	1	0.30	0.30	0.00	0.0043	NA
Zinc	w	790425	2	20.00	20.00	14.14	0.0027	NA

<u>River</u>	Neabsco Bay	<u>Station</u>	1ANEA005.15
<u>R. Mile</u>	005.15	<u>Agency</u>	VASWCB
<u>Location</u>	Above Dale City STP, Prince William Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-73	3(3)	NA	NA	5.00	5.00	720512	2
Cadmium	w	72-73	4(3)	NA	NA	10.00	10.00	720802	3
Chromium	w	72-74	9(8)	0.00	0.500	10.00	10.00	740530	9
Copper	w	72-74	9(8)	0.00	0.500	10.00	10.00	740530	9
Lead	w	72-74	8(6)	NA	NA	10.00	10.00	740530	8
Mercury	w	72-74	9(9)	0.00	0.500	0.50	0.50	740530	9
Zinc	w	72-74	9(3)	0.00	0.500	10.00	99.99	730805	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730805	1	1.00	1.00	0.00	NA	429
Cadmium	w	730805	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	740530	3	10.00	10.00	0.00	0.0572	NA
Copper	w	740530	3	10.00	10.00	0.00	0.0077	NA
Lead	w	740530	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740530	3	0.50	0.50	0.00	0.0071	NA
Zinc	w	740530	3	10.00	40.00	51.96	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Neabsco Bay	<u>Station</u>	1ANEA005.06
<u>R. Mile</u>	005.06	<u>Agency</u>	VASWCB
<u>Location</u>	Dale City STP, Prince William Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-73	3(2)	NA	NA	5.00	10.00	720130	1
Cadmium	w	72-73	4(3)	NA	NA	10.00	10.00	720802	3
Chromium	w	72-74	8(6)	0.00	0.500	10.00	10.00	740530	8
Copper	w	72-74	8(6)	0.00	0.500	10.00	139.90	730516	1
Lead	w	72-74	7(5)	NA	NA	10.00	29.99	721016	1
Mercury	w	72-74	8(8)	0.00	0.500	0.50	0.50	740530	8
Zinc	w	72-74	8(2)	0.00	0.500	24.99	89.99	730805	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730805	1	1.00	1.00	0.00	NA	429
Cadmium	w	730805	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	740530	2	10.00	10.00	0.00	0.0572	NA
Copper	w	740530	2	10.00	10.00	0.00	0.0077	NA
Lead	w	740530	2	10.00	10.00	0.00	0.2043	NA
Mercury	w	740530	2	0.50	0.50	0.00	0.0071	NA
Zinc	w	740530	2	49.99	49.99	56.56	0.0068	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Neabsco Creek	<u>Station</u>	LANEA002.89
<u>R. Mile</u>	86.43-2.89	<u>Agency</u>	VASWCB
<u>Location</u>	Route 1 Bridge, Prince William Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-85	5(2)	NA	NA	0.20	18.90	850610	1
Arsenic	w	75-86	10(7)	0.00	0.500	2.00	4.00	810831	1
Beryllium	s	83-83	1(0)	NA	NA	0.47	0.47	830505	1
Beryllium	w	83-85	2(2)	NA	NA	3.65	6.30	850610	1
Cadmium	s	80-85	5(5)	NA	NA	0.17	0.60	850610	1
Cadmium	w	75-86	10(9)	NA	NA	10.00	10.00	810831	4
Chromium	w	75-86	11(10)	0.00	0.270	10.00	10.00	810831	5
Chromium	s	80-85	5(0)	NA	NA	44.20	49.30	810421	1
Copper	s	80-85	5(0)	NA	NA	17.50	30.20	850610	1
Copper	w	75-86	11(9)	0.00	0.270	10.00	10.00	860714	7
Lead	s	80-85	5(0)	NA	NA	25.20	51.30	820408	1
Lead	w	75-86	11(3)	0.00	0.500	5.00	25.00	781128	1
Mercury	s	85-85	1(1)	NA	NA	0.11	0.11	850610	1
Mercury	w	75-86	10(10)	-0.10	0.150	0.40	0.50	771118	4
Nickel	s	80-85	5(0)	NA	NA	14.10	25.20	850610	1
Nickel	w	79-86	4(2)	NA	NA	20.00	100.00	860714	1
Selenium	w	83-85	2(1)	NA	NA	6.80	12.60	850610	1
Zinc	s	85-85	1(0)	NA	NA	138.60	138.60	850610	1
Zinc	w	75-86	11(4)	-4.99	0.500	19.99	50.00	810831	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830505	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	850610	1	18.90	18.90	0.00	NA	NA
Arsenic	w	860714	1	1.00	1.00	0.00	NA	429
Beryllium	s	830505	1	0.47	0.47	0.00	NA	NA
Beryllium	w	850610	1	6.30	6.30	0.00	0.3604	NA
Cadmium	s	850610	1	0.60	0.60	0.00	NA	NA
Cadmium	w	860714	1	3.00	3.00	0.00	0.2959	NA
Chromium	w	860714	1	2.00	2.00	0.00	0.0114	NA
Chromium	s	850610	1	48.50	48.50	0.00	NA	NA
Copper	s	850610	1	30.20	30.20	0.00	NA	NA
Copper	w	860714	1	10.00	10.00	0.00	0.0077	NA
Lead	s	850610	1	25.20	25.20	0.00	NA	NA
Lead	w	860714	1	4.00	4.00	0.00	0.0817	NA
Mercury	s	850610	1	0.11	0.11	0.00	NA	NA
Mercury	w	860714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	850610	1	25.20	25.20	0.00	NA	NA
Nickel	w	860714	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	850610	1	12.60	12.60	0.00	0.1201	NA
Zinc	s	850610	1	138.60	138.60	0.00	NA	NA
Zinc	w	860714	1	10.00	10.00	0.00	0.0014	NA
Aldrin	s	830505	1	0.02	0.02	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Neabsco Bay	<u>Station</u> 1ANEAO00.57
<u>R. Mile</u>	86.43-000.57	<u>Agency</u> VASWCB
<u>Location</u>	Midway into Bay, Prince William Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-86	7(0)	1.55	0.500	13.80	22.30	851021	1
Arsenic	w	72-86	10(5)	0.50	0.270	1.50	5.00	720521	1
Beryllium	s	83-83	1(0)	NA	NA	2.35	2.35	830505	1
Beryllium	w	83-86	4(2)	NA	NA	2.05	2.80	840522	1
Cadmium	s	80-86	7(6)	-0.01	0.500	0.21	0.30	820517	1
Cadmium	w	72-86	12(12)	0.00	0.500	10.00	10.00	810831	2
Chromium	w	72-86	14(13)	0.00	0.270	10.00	10.00	810831	1
Chromium	s	80-86	7(0)	-9.45	0.500	70.60	82.70	810421	1
Copper	s	80-86	7(0)	-1.45	0.500	51.20	65.60	810421	1
Copper	w	72-86	14(11)	0.00	0.270	10.00	19.99	731219	1
Lead	s	80-86	7(0)	-30.40	0.500	48.70	124.00	830505	1
Lead	w	72-86	13(3)	-3.00	0.060	9.00	159.90	720819	1
Mercury	s	80-86	7(0)	0.34	0.150	0.24	0.91	840522	1
Mercury	w	72-86	14(13)	0.00	0.270	0.50	0.50	770628	2
Nickel	s	80-86	7(0)	-4.60	0.500	36.70	47.10	830505	1
Nickel	w	79-86	6(3)	45.00	0.150	20.00	100.00	860714	1
Selenium	w	83-86	4(1)	NA	NA	3.45	4.20	860811	1
Zinc	s	80-86	7(0)	3.50	0.500	177.00	199.00	830505	1
Zinc	w	72-86	14(7)	2.22	0.500	10.00	1439.00	731219	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830505	1
Aldrin	w	83-83	1(0)	NA	NA	0.10	0.10	830606	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860811	2	18.50	18.50	5.37	NA	NA
Arsenic	w	860714	1	2.00	2.00	0.00	NA	858
Beryllium	s	830505	1	2.35	2.35	0.00	NA	NA
Beryllium	w	860811	2	2.05	2.05	0.07	0.1173	NA
Cadmium	s	860811	2	0.20	0.20	0.01	NA	NA
Cadmium	w	860714	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	860714	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860811	2	68.00	68.00	7.21	NA	NA
Copper	s	860811	2	50.50	50.50	6.08	NA	NA
Copper	w	860714	1	10.00	10.00	0.00	0.0077	NA
Lead	s	860811	2	46.40	46.40	3.25	NA	NA
Lead	w	860714	1	1.00	1.00	0.00	0.0204	NA
Mercury	s	860811	2	0.23	0.23	0.05	NA	NA
Mercury	w	860714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860811	2	37.10	37.10	4.95	NA	NA
Nickel	w	860714	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860811	2	4.15	4.15	0.07	0.0396	NA
Zinc	s	860811	2	179.00	179.00	5.66	NA	NA
Zinc	w	860714	1	10.00	10.00	0.00	0.0014	NA
Aldrin	s	830505	1	0.02	0.02	0.00	NA	NA
Aldrin	w	830606	1	0.10	0.10	0.00	0.0953	33

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Powells Creek	<u>Station</u>	1APOW003.11
<u>R. Mile</u>	003.11	<u>Agency</u>	VASWCB
<u>Location</u>	Route 1 Bridge, Prince William Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-73	3(3)	NA	NA	5.00	5.00	720512	2
Cadmium	w	72-75	5(5)	NA	NA	10.00	10.00	750511	4
Chromium	w	72-75	10(8)	0.00	0.500	10.00	10.00	750511	10
Copper	w	72-75	9(8)	0.00	0.500	10.00	10.00	750511	9
Lead	w	72-75	9(7)	-2.33	0.270	10.00	19.99	721016	1
Mercury	w	72-75	10(10)	0.00	0.190	0.50	0.50	750511	1
Zinc	w	72-75	10(3)	-6.67	0.190	10.00	139.90	721016	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730805	1	1.00	1.00	0.00	NA	429
Cadmium	w	750511	1	10.00	10.00	0.00	0.9861	NA
Chromium	w	750511	2	10.00	10.00	0.00	0.0572	NA
Copper	w	750511	2	10.00	10.00	0.00	0.0077	NA
Lead	w	750511	2	6.50	6.50	4.95	0.1328	NA
Mercury	w	750511	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	750511	2	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Mattawoman Creek	<u>Station</u>	MAT0224
<u>R. Mile</u>	22.40	<u>Agency</u>	MDOEP
<u>Location</u>	Action Lane crossing		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740403	1
Chromium	w	74-74	1(0)	NA	NA	0.10	0.10	740403	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740403	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740403	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740403	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740403	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740403	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740403	1	0.05	0.05	0.00	NA	NA
Lead	w	740403	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740403	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Mattawoman Creek	<u>Station</u> MAT0175
<u>R. Mile</u>	17.50	<u>Agency</u> MDOEP
<u>Location</u>	Unnamed Rd. crossing at Bolton just N. of Rt. 228	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740403	1
Chromium	w	74-74	1(0)	NA	NA	0.10	0.10	740403	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740403	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740403	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740403	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740403	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740403	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740403	1	0.05	0.05	0.00	NA	NA
Lead	w	740403	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740403	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Mattawoman Creek	<u>Station</u> MAT0134
<u>R. Mile</u>		<u>Agency</u> MDOEP
<u>Location</u>	Rt. 227 X-ing Mattawoman Cr. Olging Station	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740403	1
Chromium	w	74-74	1(0)	NA	NA	0.10	0.10	740403	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740403	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740403	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740403	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740403	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740403	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740403	1	0.05	0.05	0.00	NA	NA
Lead	w	740403	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740403	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Mattawoman Creek	<u>Station</u>	MAT0078
<u>R. Mile</u>	7.80	<u>Agency</u>	MDOEP
<u>Location</u>	MD Rt. 225 crossing		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	71-74	4(4)	NA	NA	0.03	0.03	740403	4
Chromium	w	71-74	4(3)	NA	NA	0.05	0.10	740403	1
Copper	w	71-74	4(4)	NA	NA	0.04	0.05	740403	2
Lead	w	71-74	4(4)	NA	NA	0.30	0.30	740403	4
Mercury	w	71-74	3(2)	NA	NA	0.00	0.20	710929	1
Nickel	w	71-71	3(1)	NA	NA	0.05	0.05	710929	3

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740403	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740403	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740403	1	0.05	0.05	0.00	NA	NA
Lead	w	740403	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740403	1	0.00	0.00	0.00	NA	NA
Nickel	w	710929	3	0.05	0.05	0.00	0.0001	NA

<u>River</u>	Mattawoman Creek	<u>Station</u>	MAT0076
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Mid-channel where railroad is tangent to creek.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	70-71	3(3)	NA	NA	0.03	0.03	710929	3
Chromium	w	70-71	3(3)	NA	NA	0.05	0.05	710929	3
Copper	w	70-71	3(3)	NA	NA	0.03	0.05	710929	1
Lead	w	70-71	3(3)	NA	NA	0.30	0.30	710929	3
Mercury	w	70-71	2(2)	NA	NA	0.10	0.20	710929	1
Nickel	w	70-71	3(2)	NA	NA	0.05	0.05	710929	3

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	710929	2	0.03	0.03	0.00	0.0030	NA
Chromium	w	710929	2	0.05	0.05	0.00	0.0003	NA
Copper	w	710929	2	0.04	0.04	0.01	NA	NA
Lead	w	710929	2	0.30	0.30	0.00	0.0061	NA
Mercury	w	710929	1	0.20	0.20	0.00	0.0029	NA
Nickel	w	710929	2	0.05	0.05	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Mattawoman Creek	<u>Station</u>	MAT0061
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Mid-channel 0.3 mi. U/S From's wharf off Harrison Gut.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	71-71	2(2)	NA	NA	0.03	0.03	710929	2
Chromium	w	71-71	2(2)	NA	NA	0.05	0.05	710929	2
Copper	w	71-71	2(2)	NA	NA	0.04	0.05	710929	1
Lead	w	71-71	2(1)	NA	NA	0.30	0.30	710929	2
Mercury	w	71-71	1(1)	NA	NA	0.20	0.20	710929	1
Nickel	w	71-71	2(1)	NA	NA	0.05	0.05	710929	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	710929	2	0.03	0.03	0.00	0.0030	NA
Chromium	w	710929	2	0.05	0.05	0.00	0.0003	NA
Copper	w	710929	2	0.04	0.04	0.01	NA	NA
Lead	w	710929	2	0.30	0.30	0.00	0.0061	NA
Mercury	w	710929	1	0.20	0.20	0.00	0.0029	NA
Nickel	w	710929	2	0.05	0.05	0.00	0.0001	NA

<u>River</u>	Mattawoman	<u>Station</u>	MAT0051
<u>R. Mile</u>	5.10	<u>Agency</u>	MDOEP
<u>Location</u>	Mid-channel 0.3 miles upstream from Mattling's wharf.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	71-71	3(3)	NA	NA	0.03	0.03	710929	3
Chromium	w	71-71	3(3)	NA	NA	0.05	0.05	710929	3
Copper	w	71-71	3(3)	NA	NA	0.03	0.05	710929	1
Lead	w	71-71	3(3)	NA	NA	0.30	0.30	710929	3
Mercury	w	71-71	2(1)	NA	NA	0.10	0.20	710929	1
Nickel	w	71-71	4(2)	NA	NA	0.05	0.05	710929	4

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	710929	3	0.03	0.03	0.00	0.0030	NA
Chromium	w	710929	3	0.05	0.05	0.00	0.0003	NA
Copper	w	710929	3	0.03	0.04	0.01	NA	NA
Lead	w	710929	3	0.30	0.30	0.00	0.0061	NA
Mercury	w	710929	2	0.10	0.10	0.14	0.0014	NA
Nickel	w	710929	4	0.05	0.05	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Mattawoman Creek	<u>Station</u>	MAT0030
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Between N. tip Marsh Island AASE at old pilings		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	71-74	5(5)	NA	NA	0.03	0.10	740603	1
Chromium	w	71-74	4(4)	NA	NA	0.05	0.10	740402	1
Copper	w	71-74	4(4)	NA	NA	0.04	0.05	740402	2
Lead	w	71-74	5(5)	NA	NA	0.30	0.30	740402	4
Mercury	w	71-74	3(2)	NA	NA	0.00	0.20	710929	1
Nickel	w	71-71	3(1)	NA	NA	0.05	0.05	710929	3

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740603	2	0.07	0.07	0.05	0.0064	NA
Chromium	w	740402	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740402	1	0.05	0.05	0.00	NA	NA
Lead	w	740603	2	0.20	0.20	0.14	0.0041	NA
Mercury	w	740402	1	0.00	0.00	0.00	NA	NA
Nickel	w	710929	3	0.05	0.05	0.00	0.0001	NA

<u>River</u>	Mattawoman Creek	<u>Station</u>	MAT0029
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Midway between tip of Bullocks Pt. & tip on North Shore		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	71-71	3(3)	NA	NA	0.03	0.03	710929	3
Chromium	w	71-71	3(3)	NA	NA	0.05	0.05	710929	3
Copper	w	71-71	3(3)	NA	NA	0.03	0.05	710929	1
Lead	w	71-71	3(3)	NA	NA	0.30	0.30	710929	3
Mercury	w	71-71	2(2)	NA	NA	0.10	0.20	710929	1
Nickel	w	71-71	3(2)	NA	NA	0.05	0.05	710929	3

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	710929	3	0.03	0.03	0.00	0.0030	NA
Chromium	w	710929	3	0.05	0.05	0.00	0.0003	NA
Copper	w	710929	3	0.03	0.04	0.01	NA	NA
Lead	w	710929	3	0.30	0.30	0.00	0.0061	NA
Mercury	w	710929	2	0.10	0.10	0.14	0.0014	NA
Nickel	w	710929	3	0.05	0.05	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Mattawoman Creek	<u>Station</u>	MAT0016
<u>R. Mile</u>	1.60	<u>Agency</u>	MDOEP
<u>Location</u>	500 Yds. NW of Sweden Pt. Marina.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	71-74	6(6)	NA	NA	0.03	0.10	740603	1
Chromium	w	71-74	5(5)	NA	NA	0.05	0.10	740625	2
Copper	w	71-74	4(4)	NA	NA	0.04	0.05	740402	2
Lead	w	71-74	6(6)	NA	NA	0.30	0.30	740402	4
Mercury	w	71-74	4(4)	NA	NA	0.00	0.20	710929	1
Nickel	w	71-71	3(1)	NA	NA	0.05	0.05	710929	3

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740625	3	0.03	0.05	0.04	0.0030	NA
Chromium	w	740625	2	0.10	0.10	0.00	0.0006	NA
Copper	w	740625	2	0.04	0.04	0.01	NA	NA
Lead	w	740625	3	0.10	0.17	0.12	0.0020	NA
Mercury	w	740625	2	0.00	0.00	0.00	NA	NA
Nickel	w	710929	3	0.05	0.05	0.00	0.0001	NA

<u>River</u>	Mattawoman Creek	<u>Station</u>	MAT0013
<u>R. Mile</u>	1.30	<u>Agency</u>	MDOEP
<u>Location</u>	100 Ft. due E. of Deep Pt. in Channel		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	71-71	3(3)	NA	NA	0.03	0.03	710929	3
Chromium	w	71-71	3(2)	NA	NA	0.05	0.05	710929	3
Copper	w	71-71	3(3)	NA	NA	0.03	0.05	710929	1
Lead	w	71-71	3(2)	NA	NA	0.30	0.30	710929	3
Mercury	w	71-71	2(2)	NA	NA	0.10	0.20	710929	1
Nickel	w	71-71	3(1)	NA	NA	0.05	0.05	710929	3

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	710929	3	0.03	0.03	0.00	0.0030	NA
Chromium	w	710929	3	0.05	0.05	0.00	0.0003	NA
Copper	w	710929	3	0.03	0.04	0.01	NA	NA
Lead	w	710929	3	0.30	0.30	0.00	0.0061	NA
Mercury	w	710929	2	0.10	0.10	0.14	0.0014	NA
Nickel	w	710929	3	0.05	0.05	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Mattawoman Creek	<u>Station</u>	MAT0010
<u>R. Mile</u>	1.00	<u>Agency</u>	MDOEP
<u>Location</u>	100 Ft. off shore from Burning Site on Deep		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	71-71	2(2)	NA	NA	0.03	0.03	710707	2
Chromium	w	71-71	2(1)	NA	NA	0.05	0.05	710707	2
Copper	w	71-71	1(1)	NA	NA	0.03	0.03	710707	1
Lead	w	71-71	2(2)	NA	NA	0.30	0.30	710707	2
Mercury	w	71-71	1(1)	NA	NA	0.00	0.00	710510	1
Nickel	w	71-71	2(1)	NA	NA	0.05	0.05	710707	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	710707	2	0.03	0.03	0.00	0.0030	NA
Chromium	w	710707	2	0.05	0.05	0.00	0.0003	NA
Copper	w	710707	1	0.03	0.03	0.00	NA	NA
Lead	w	710707	2	0.30	0.30	0.00	0.0061	NA
Mercury	w	710510	1	0.00	0.00	0.00	NA	NA
Nickel	w	710707	2	0.05	0.05	0.00	0.0001	NA

<u>River</u>	Mattawoman Creek	<u>Station</u>	MAT0007
<u>R. Mile</u>	.70	<u>Agency</u>	MDOEP
<u>Location</u>	At Black Day Beacon 1		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	71-74	6(6)	NA	NA	0.03	0.10	740603	1
Chromium	w	71-74	5(4)	NA	NA	0.05	0.10	740625	2
Copper	w	71-74	5(5)	NA	NA	0.03	0.05	740402	2
Lead	w	71-74	6(6)	NA	NA	0.20	0.30	740402	3
Mercury	w	71-74	5(4)	NA	NA	0.00	0.20	710929	2
Nickel	w	71-71	3(2)	NA	NA	0.05	0.05	710929	3

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740625	3	0.03	0.05	0.04	0.0030	NA
Chromium	w	740625	2	0.10	0.10	0.00	0.0006	NA
Copper	w	740625	2	0.04	0.04	0.01	NA	NA
Lead	w	740625	3	0.10	0.17	0.12	0.0020	NA
Mercury	w	740625	2	0.00	0.00	0.00	NA	NA
Nickel	w	710929	3	0.05	0.05	0.00	0.0001	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Potomac River	<u>Station</u> 1APOT081.89
<u>R. Mile</u>	081.89	<u>Agency</u> VASWCB
<u>Location</u>	Below VEPCO's Discharge near Possum Pt., Charles Co., Md.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-77	3(3)	NA	NA	2.80	3.00	751017	1
Cadmium	w	72-77	5(5)	NA	NA	10.00	10.00	770628	4
Chromium	w	72-77	7(7)	NA	NA	10.00	10.00	770628	7
Copper	w	72-77	7(7)	NA	NA	10.00	10.00	770628	7
Lead	w	72-77	6(5)	NA	NA	10.00	10.00	740506	4
Mercury	w	72-77	7(7)	NA	NA	0.50	0.50	770628	2
Zinc	w	72-77	7(3)	NA	NA	10.00	59.99	751017	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770628	1	2.00	2.00	0.00	NA	858
Cadmium	w	770628	1	10.00	10.00	0.00	0.9861	NA
Chromium	w	770628	1	10.00	10.00	0.00	0.0572	NA
Copper	w	770628	1	10.00	10.00	0.00	0.0077	NA
Lead	w	770628	1	2.00	2.00	0.00	0.0409	NA
Mercury	w	770628	1	0.50	0.50	0.00	0.0072	NA
Zinc	w	770628	1	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Potomac River	<u>Station</u> 1APOT081.34
<u>R. Mile</u>	081.34	<u>Agency</u> VASWCB
<u>Location</u>	At Shipping Pt., Buoy 43, Charles Co., Md.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-77	5(5)	NA	NA	3.00	5.00	720521	2
Cadmium	w	72-77	7(7)	NA	NA	10.00	10.00	770628	6
Chromium	w	72-77	9(9)	0.00	0.500	10.00	10.00	770628	9
Copper	w	72-77	9(8)	0.00	0.500	10.00	10.00	770628	9
Lead	w	72-77	8(5)	NA	NA	10.00	10.00	740506	6
Mercury	w	72-77	9(7)	0.00	0.500	0.50	1.60	720819	1
Zinc	w	72-77	9(5)	5.00	0.270	10.00	39.99	720809	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770628	1	2.00	2.00	0.00	NA	858
Cadmium	w	770628	1	10.00	10.00	0.00	0.9861	NA
Chromium	w	770628	1	10.00	10.00	0.00	0.0572	NA
Copper	w	770628	1	10.00	10.00	0.00	0.0077	NA
Lead	w	770628	1	6.00	6.00	0.00	0.1226	NA
Mercury	w	770628	1	0.50	0.50	0.00	0.0072	NA
Zinc	w	770628	1	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	South Fork Quantico Creek	<u>Station</u> 1ASOQ006.73
<u>R. Mile</u>	006.73	<u>Agency</u> VASWCB
<u>Location</u>	Route 619 Bridge, Prince William Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-79	6(5)	0.00	0.270	2.00	3.00	751020	1
Cadmium	w	75-79	6(6)	0.00	0.100	10.00	10.00	790425	3
Chromium	w	75-79	6(6)	0.00	0.100	10.00	10.00	790425	3
Copper	w	75-79	6(6)	0.00	0.100	10.00	10.00	790425	3
Lead	w	75-79	6(1)	-1.17	0.360	4.50	8.00	751020	1
Mercury	w	75-79	6(6)	-0.08	0.060	0.50	0.50	771019	3
Zinc	w	75-79	6(2)	2.50	0.130	10.00	209.90	771019	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790425	2	2.00	2.00	0.00	NA	858
Cadmium	w	790425	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	790425	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790425	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790425	2	3.50	3.50	0.71	0.0715	NA
Mercury	w	790425	2	0.30	0.30	0.00	0.0043	NA
Zinc	w	790425	2	15.00	15.00	7.07	0.0020	NA

<u>River</u>	South Fork Quantico Creek	<u>Station</u> 01658650
<u>R. Mile</u>		<u>Agency</u> USGS
<u>Location</u>	Near Dumfries, Prince William Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	83-83	1(0)	NA	NA	1.00	1.00	830923	1
Copper	w	83-83	1(1)	NA	NA	10.00	10.00	830923	1
Lead	w	83-83	1(1)	NA	NA	100.00	100.00	830923	1
Zinc	w	83-83	1(0)	NA	NA	20.00	20.00	830923	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	830923	1	1.00	1.00	0.00	NA	429
Copper	w	830923	1	10.00	10.00	0.00	0.0077	NA
Lead	w	830923	1	100.00	100.00	0.00	2.0429	NA
Zinc	w	830923	1	20.00	20.00	0.00	0.0027	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	South Fork Quantico Creek	<u>Station</u> 01658500
<u>R. Mile</u>		<u>Agency</u> USGS
<u>Location</u>	Near Independent Hill, Prince William Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	83-83	1(0)	NA	NA	1.00	1.00	830923	1
Copper	w	83-83	1(1)	NA	NA	10.00	10.00	830923	1
Lead	w	83-83	1(1)	NA	NA	100.00	100.00	830923	1
Zinc	w	83-83	1(0)	NA	NA	20.00	20.00	830923	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	830923	1	1.00	1.00	0.00	NA	429
Copper	w	830923	1	10.00	10.00	0.00	0.0077	NA
Lead	w	830923	1	100.00	100.00	0.00	2.0429	NA
Zinc	w	830923	1	20.00	20.00	0.00	0.0027	NA

<u>River</u>	Quantico Creek	<u>Station</u> 01658480
<u>R. Mile</u>		<u>Agency</u> USGS
<u>Location</u>	Near Dumfries, Prince William Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	83-83	1(0)	NA	NA	1.00	1.00	830923	1
Copper	w	83-83	1(0)	NA	NA	200.00	200.00	830923	1
Lead	w	83-83	1(1)	NA	NA	100.00	100.00	830923	1
Zinc	w	83-83	1(0)	NA	NA	1300.00	1300.00	830923	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	830923	1	1.00	1.00	0.00	NA	429
Copper	w	830923	1	200.00	200.00	0.00	0.1546	NA
Lead	w	830923	1	100.00	100.00	0.00	2.0429	NA
Zinc	w	830923	1	1300.00	0.00	0.18	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Quantico Creek	<u>Station</u>	01658475
<u>R. Mile</u>		<u>Agency</u>	USGS
<u>Location</u>	Above Pyrite Mine near Dumfries, Prince William Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	83-83	1(0)	NA	NA	1.00	1.00	830923	1
Copper	w	83-83	1(1)	NA	NA	10.00	10.00	830923	1
Lead	w	83-83	1(1)	NA	NA	100.00	100.00	830923	1
Zinc	w	83-83	1(0)	NA	NA	30.00	30.00	830923	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	830923	1	1.00	1.00	0.00	NA	429
Copper	w	830923	1	10.00	10.00	0.00	0.0077	NA
Lead	w	830923	1	100.00	100.00	0.00	2.0429	NA
Zinc	w	830923	1	30.00	30.00	0.00	0.0041	NA

<u>River</u>	Quantico Creek	<u>Station</u>	1AQUA004.46
<u>R. Mile</u>	004.46	<u>Agency</u>	VASWCB
<u>Location</u>	Route 1 Bridge, Prince William Co.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-86	6(1)	NA	NA	5.25	25.70	860811	1
Arsenic	w	72-86	17(15)	0.00	0.270	1.00	5.00	720512	2
Beryllium	s	83-83	1(0)	NA	NA	0.49	0.49	830505	1
Beryllium	w	83-86	3(2)	NA	NA	2.00	5.80	850610	1
Cadmium	s	80-86	6(2)	NA	NA	0.63	0.79	860811	2
Cadmium	w	72-86	19(16)	0.00	0.400	10.00	10.00	810831	6
Chromium	w	72-86	24(20)	0.00	0.290	10.00	10.00	810831	6
Chromium	s	80-86	6(0)	NA	NA	20.00	31.20	820408	1
Copper	s	80-86	6(0)	NA	NA	203.75	269.00	820408	1
Copper	w	72-86	24(10)	0.00	0.500	10.00	70.00	810831	1
Lead	s	80-86	6(0)	NA	NA	53.70	105.00	820408	1
Lead	w	72-86	23(10)	-0.25	0.250	8.00	69.99	721016	1
Mercury	s	81-86	5(4)	NA	NA	0.14	0.22	820408	1
Mercury	w	72-86	23(22)	0.00	0.180	0.50	1.20	751020	1
Nickel	s	80-86	6(0)	NA	NA	8.80	14.40	820408	1
Nickel	w	79-86	8(5)	30.00	0.270	10.00	100.00	860714	1
Selenium	w	83-86	3(1)	NA	NA	2.00	5.80	850610	1
Zinc	s	80-86	6(0)	NA	NA	359.50	448.90	850610	1
Zinc	w	72-86	24(1)	-4.99	0.230	100.00	660.00	810831	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830505	1
Aldrin	w	74-74	1(0)	NA	NA	0.01	0.01	740503	1
Dieldrin	w	74-74	1(0)	NA	NA	0.02	0.02	740503	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

Station AQUA004.46 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860811	1	25.70	25.70	0.00	NA	NA
Arsenic	w	860714	1	1.00	1.00	0.00	NA	429
Beryllium	s	830505	1	0.49	0.49	0.00	NA	NA
Beryllium	w	860811	1	2.00	2.00	0.00	0.1144	NA
Cadmium	s	860811	1	0.79	0.79	0.00	NA	NA
Cadmium	w	860714	1	7.00	7.00	0.00	0.6903	NA
Chromium	w	860714	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860811	1	29.60	29.60	0.00	NA	NA
Copper	s	860811	1	116.00	116.00	0.00	NA	NA
Copper	w	860714	1	20.00	20.00	0.00	0.0155	NA
Lead	s	860811	1	69.10	69.10	0.00	NA	NA
Lead	w	860714	1	2.00	2.00	0.00	0.0409	NA
Mercury	s	860811	1	0.09	0.09	0.00	NA	NA
Mercury	w	860714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860811	1	11.80	11.80	0.00	NA	NA
Nickel	w	860714	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860811	1	2.00	2.00	0.00	0.0191	NA
Zinc	s	860811	1	276.00	276.00	0.00	NA	NA
Zinc	w	860714	1	100.00	100.00	0.00	0.0136	NA
Aldrin	s	830505	1	0.02	0.02	0.00	NA	NA
Aldrin	w	740503	1	0.01	0.01	0.00	0.0095	3
Dieldrin	w	740503	1	0.02	0.02	0.00	NA	17

<u>River</u>	Potomac River	<u>Station</u>	XEA1840
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Buoy 44 between Possum Pt. & Moss Pt.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740625	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740625	1
Copper	w	74-74	1(1)	NA	NA	0.03	0.03	740625	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740625	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740625	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740625	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740625	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740625	1	0.03	0.03	0.00	NA	NA
Lead	w	740625	1	0.10	0.10	0.00	0.0020	NA
Mercury	w	740625	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	XEAl130
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Adjacent to dock at Quantico		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	f	86-86	13(0)	NA	NA	0.17	0.63	860427	1
Chromium	w	86-86	13(13)	NA	NA	0.50	0.50	860427	13
Copper	f	86-86	13(0)	NA	NA	0.75	5.80	860427	1
Lead	f	86-86	13(8)	NA	NA	0.50	1.40	860427	1
Mercury	f	86-86	13(0)	NA	NA	0.05	0.08	860427	1
Zinc	f	86-86	13(0)	NA	NA	1.60	5.10	860427	1
Alpha BHC	f	86-86	13(9)	NA	NA	0.00	0.01	860426	1
Gamma BHC(Lindane)	f	86-86	13(3)	NA	NA	0.00	0.00	860427	2
Chlordane	f	86-86	13(0)	NA	NA	0.18	0.40	860426	1
Dieldrin	f	86-86	13(0)	NA	NA	0.01	0.04	860426	1
Endrin	f	86-86	13(13)	NA	NA	0.00	0.00	860427	13
Heptachlor Epoxide	f	86-86	13(1)	NA	NA	0.00	0.01	860427	2
Hexachlorobenzene	f	86-86	13(8)	NA	NA	0.00	0.00	860427	2
PCB-1242	f	86-86	13(6)	NA	NA	0.01	0.04	860427	1
PCB-1254	f	86-86	13(0)	NA	NA	0.05	0.09	860427	2
PCB1260	f	86-86	13(0)	NA	NA	0.13	0.27	860427	1
PCB's	f	86-86	13(0)	NA	NA	0.19	0.40	860427	1
P,P'DDD	f	86-86	13(0)	NA	NA	0.06	0.14	860426	1
P,P'DDE	f	86-86	13(0)	NA	NA	0.03	0.06	860427	1
P,P'DDT	f	86-86	13(13)	NA	NA	0.00	0.00	860427	13
Toxaphene	f	86-86	13(13)	NA	NA	0.01	0.01	860427	13

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Data	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	f	860427	13	0.17	0.21	0.15	0.0545	NA
Chromium	w	860427	13	0.50	0.50	0.00	0.0029	NA
Copper	f	860427	13	0.75	1.14	1.42	0.0019	NA
Lead	f	860427	13	0.50	0.71	0.31	0.0332	NA
Mercury	f	860427	13	0.05	0.05	0.02	0.0025	NA
Zinc	f	860427	13	1.60	2.42	1.85	0.0007	NA
Alpha BHC	f	860427	13	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	860427	13	0.00	0.00	0.00	NA	NA
Chlordane	f	860427	13	0.18	0.17	0.12	0.3344	27
Dieldrin	f	860427	13	0.01	0.02	0.01	NA	31
Endrin	f	860427	13	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	860427	13	0.00	0.00	0.00	0.0062	NA
Hexachlorobenzene	f	860427	13	0.00	0.00	0.00	NA	NA
PCB-1242	f	860427	13	0.01	0.01	0.01	NA	4
PCB-1254	f	860427	13	0.05	0.06	0.02	NA	20
PCB1260	f	860427	13	0.13	0.16	0.06	NA	52
PCB's	f	860427	13	0.19	0.22	0.08	NA	77
P,P'DDD	f	860427	13	0.06	0.06	0.04	NA	NA
P,P'DDE	f	860427	13	0.03	0.03	0.01	NA	NA
P,P'DDT	f	860427	13	0.00	0.00	0.00	NA	NA
Toxaphene	f	860427	13	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	XDA5027
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Off Smith Point, SP, Charles Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	f	74-75	9(0)	NA	NA	0.40	0.47	740401	1
Copper	f	74-75	9(0)	NA	NA	11.40	18.00	750401	1
Zinc	f	74-75	9(0)	NA	NA	464.00	570.00	750401	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	f	750401	6	0.31	0.33	0.09	0.1009	NA
Copper	f	750401	6	11.70	11.68	4.81	0.0294	NA
Zinc	f	750401	6	477.00	470.33	76.10	0.2110	NA

<u>River</u>	Chopawamsic Creek	<u>Station</u>	LACH0003.65
<u>R. Mile</u>	003.65	<u>Agency</u>	VASWCB
<u>Location</u>	Route 1 Bridge, Prince William Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-86	6(0)	NA	NA	16.65	25.10	860811	1
Arsenic	w	75-86	14(11)	0.00	0.500	1.00	6.00	751020	1
Beryllium	s	83-83	1(0)	NA	NA	0.77	0.77	830505	1
Beryllium	w	83-86	3(2)	NA	NA	2.10	6.70	850610	1
Cadmium	s	80-86	6(5)	NA	NA	0.21	0.70	850610	1
Cadmium	w	75-86	15(14)	0.00	0.100	10.00	10.00	810831	5
Chromium	w	75-86	15(13)	0.00	0.500	10.00	10.00	830707	6
Chromium	s	80-86	6(0)	NA	NA	17.75	28.80	820408	1
Copper	s	80-86	6(0)	NA	NA	26.45	35.30	850610	1
Copper	w	75-86	15(14)	0.00	0.270	10.00	10.00	860714	11
Lead	s	80-86	6(0)	NA	NA	46.30	81.90	820408	1
Lead	w	75-86	15(4)	0.67	0.210	3.00	15.00	781128	1
Mercury	s	81-86	5(4)	NA	NA	0.14	0.28	820408	1
Mercury	w	75-86	14(13)	0.00	0.500	0.30	0.80	751020	1
Nickel	s	80-86	6(0)	NA	NA	10.55	20.00	850610	1
Nickel	w	79-86	8(3)	30.00	0.150	15.00	100.00	860714	1
Selenium	w	83-86	3(1)	NA	NA	2.10	13.30	850610	1
Zinc	s	80-86	6(0)	NA	NA	61.35	159.80	850610	1
Zinc	w	75-86	15(4)	0.00	0.500	19.99	120.00	840827	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830505	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

Section IACH0003.65 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860811	1	25.10	25.10	0.00	NA	NA
Arsenic	w	860714	1	1.00	1.00	0.00	NA	429
Beryllium	s	830505	1	0.77	0.77	0.00	NA	NA
Beryllium	w	860811	1	2.10	2.10	0.00	0.1201	NA
Cadmium	s	860811	1	0.21	0.21	0.00	NA	NA
Cadmium	w	860714	1	4.00	4.00	0.00	0.3945	NA
Chromium	w	860714	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860811	1	14.00	14.00	0.00	NA	NA
Copper	s	860811	1	22.60	22.60	0.00	NA	NA
Copper	w	860714	1	10.00	10.00	0.00	0.0077	NA
Lead	s	860811	1	33.50	33.50	0.00	NA	NA
Lead	w	860714	1	4.00	4.00	0.00	0.0817	NA
Mercury	s	860811	1	0.10	0.10	0.00	NA	NA
Mercury	w	860714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860811	1	10.50	10.50	0.00	NA	NA
Nickel	w	860714	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860811	1	2.10	2.10	0.00	0.0200	NA
Zinc	s	860811	1	58.60	58.60	0.00	NA	NA
Zinc	w	860714	1	10.00	10.00	0.00	0.0014	NA
Aldrin	s	830505	1	0.02	0.02	0.00	NA	NA

<u>River</u>	Potomac River	<u>Station</u>	1APOT079.16
<u>R. Mile</u>	079.16	<u>Agency</u>	VASWCB
<u>Location</u>	Near Mouth of Chopawamsic Creek, Charles Co., Md.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-77	4(4)	NA	NA	2.50	5.00	720521	1
Cadmium	w	72-77	6(6)	NA	NA	10.00	10.00	770628	5
Chromium	w	72-77	8(7)	0.00	0.500	10.00	19.99	730821	1
Copper	w	72-77	8(8)	0.00	0.500	10.00	10.00	770628	8
Lead	w	72-77	7(6)	NA	NA	10.00	10.00	740506	5
Mercury	w	72-77	9(8)	0.00	0.270	0.50	0.50	770628	2
Zinc	w	72-77	8(4)	10.00	0.270	10.00	29.99	751017	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770628	1	2.00	2.00	0.00	NA	858
Cadmium	w	770628	1	10.00	10.00	0.00	0.9861	NA
Chromium	w	770628	1	10.00	10.00	0.00	0.0572	NA
Copper	w	770628	1	10.00	10.00	0.00	0.0077	NA
Lead	w	770628	1	2.00	2.00	0.00	0.0409	NA
Mercury	w	770628	1	0.50	0.50	0.00	0.0072	NA
Zinc	w	770628	1	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Aquia Creek	<u>Station</u>	1AAUA019.99
<u>R. Mile</u>	019.99	<u>Agency</u>	VASWCB
<u>Location</u>	Route 610 Bridge, Stafford Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-73	5(4)	NA	NA	5.00	5.00	720530	4
Cadmium	w	71-73	7(7)	-4.50	0.270	10.00	10.00	720802	6
Chromium	w	70-74	16(14)	0.00	0.500	10.00	19.99	700406	1
Copper	w	70-74	15(9)	0.00	0.190	10.00	29.99	730116	1
Lead	w	70-74	13(11)	0.00	0.500	10.00	10.00	740530	13
Mercury	w	70-74	13(12)	0.00	0.500	0.50	0.50	740530	13
Zinc	w	70-74	16(7)	0.00	0.500	10.00	39.99	730805	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	730805	1	3.00	3.00	0.00	NA	1287
Cadmium	w	730805	1	1.00	1.00	0.00	0.0986	NA
Chromium	w	740530	3	10.00	10.00	0.00	0.0572	NA
Copper	w	740530	3	10.00	10.00	0.00	0.0077	NA
Lead	w	740530	3	10.00	10.00	0.00	0.2043	NA
Mercury	w	740530	3	0.50	0.50	0.00	0.0071	NA
Zinc	w	740530	3	10.00	20.00	17.32	0.0014	NA

<u>River</u>	Aquia Creek	<u>Station</u>	1AAUA014.51
<u>R. Mile</u>	014.51	<u>Agency</u>	VASWCB
<u>Location</u>	Route 641 Bridge, Stafford Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-79	6(6)	-0.33	0.270	2.00	3.00	751020	1
Cadmium	w	75-79	6(6)	0.00	0.270	10.00	10.00	790410	3
Chromium	w	75-79	6(6)	0.00	0.270	10.00	10.00	790410	3
Copper	w	75-79	6(6)	0.00	0.270	10.00	10.00	790410	3
Lead	w	75-79	6(1)	1.67	0.500	4.00	10.00	780414	1
Mercury	w	75-79	6(5)	-0.07	0.270	0.50	0.90	770331	1
Zinc	w	75-79	6(1)	-3.33	0.500	14.99	79.99	771025	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790410	3	2.00	1.67	0.58	NA	858
Cadmium	w	790410	3	10.00	10.00	0.00	0.9862	NA
Chromium	w	790410	3	10.00	10.00	0.00	0.0572	NA
Copper	w	790410	3	10.00	10.00	0.00	0.0077	NA
Lead	w	790410	3	8.00	6.33	4.73	0.1634	NA
Mercury	w	790410	3	0.30	0.37	0.12	0.0043	NA
Zinc	w	790410	3	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Aquia Creek	<u>Station</u>	1AAUA010.26
<u>R. Mile</u>	010.26	<u>Agency</u>	VASWCB
<u>Location</u>	Route 1 Bridge, Stafford Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	80-86	5(1)	NA	NA	6.60	16.30	860811	1
Arsenic	w	71-86	18(17)	-0.31	0.130	1.50	5.00	720530	4
Beryllium	s	83-83	1(0)	NA	NA	2.15	2.15	830505	1
Beryllium	w	83-86	3(3)	NA	NA	2.00	6.60	850610	1
Cadmium	s	80-86	5(5)	NA	NA	0.20	0.70	850610	1
Cadmium	w	71-86	21(20)	0.00	0.500	10.00	10.00	791024	4
Chromium	w	70-86	30(22)	0.00	0.340	10.00	29.99	700406	1
Chromium	s	80-86	5(0)	NA	NA	20.90	46.80	830505	1
Copper	s	80-86	5(0)	NA	NA	19.90	35.10	830505	1
Copper	w	70-86	29(17)	0.00	0.500	10.00	29.99	730116	2
Lead	s	80-86	5(0)	NA	NA	46.80	95.60	830505	1
Lead	w	70-86	27(13)	-0.58	0.020	10.00	19.99	710421	1
Mercury	s	80-86	5(4)	NA	NA	0.10	0.20	810422	1
Mercury	w	70-86	27(24)	0.00	0.200	0.50	1.20	770331	1
Nickal	s	80-86	5(0)	NA	NA	10.90	29.30	830505	1
Nickel	w	79-86	7(2)	30.00	0.270	20.00	100.00	860714	1
Selenium	w	83-86	3(2)	NA	NA	2.00	6.60	850610	1
Zinc	s	80-86	5(0)	NA	NA	42.70	118.30	850610	1
Zinc	w	70-86	30(8)	0.00	0.170	10.00	200.00	830707	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830505	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860811	1	16.30	16.30	0.00	NA	NA
Arsenic	w	860714	1	1.00	1.00	0.00	NA	429
Beryllium	s	830505	1	2.15	2.15	0.00	NA	NA
Beryllium	w	860811	1	2.00	2.00	0.00	0.1144	NA
Cadmium	s	860811	1	0.20	0.20	0.00	NA	NA
Cadmium	w	860714	1	5.00	5.00	0.00	0.4931	NA
Chromium	w	860714	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860811	1	17.70	17.70	0.00	NA	NA
Copper	s	860811	1	19.90	19.90	0.00	NA	NA
Copper	w	860714	1	20.00	20.00	0.00	0.0155	NA
Lead	s	860811	1	46.80	46.80	0.00	NA	NA
Lead	w	860714	1	1.00	1.00	0.00	0.0204	NA
Mercury	s	860811	1	0.09	0.09	0.00	NA	NA
Mercury	w	860714	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860811	1	8.10	8.10	0.00	NA	NA
Nickel	w	860714	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860811	1	2.00	2.00	0.00	0.0191	NA
Zinc	s	860811	1	42.70	42.70	0.00	NA	NA
Zinc	w	860714	1	10.00	10.00	0.00	0.0014	NA
Aldrin	s	830505	1	0.02	0.02	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Aquia Creek	<u>Station</u>	1AAUA001.91
<u>R. Mile</u>	001.91	<u>Agency</u>	VASWCB
<u>Location</u>	Buoy 10 in Aquia Creek, Stafford Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-77	4(4)	NA	NA	2.50	5.00	720521	1
Cadmium	w	72-77	6(6)	NA	NA	10.00	10.00	770628	5
Chromium	w	72-77	8(8)	0.00	0.500	10.00	10.00	770628	8
Copper	w	72-77	8(6)	0.00	0.500	10.00	10.00	770628	8
Lead	w	72-77	7(5)	NA	NA	10.00	10.00	740506	5
Mercury	w	72-77	8(7)	0.00	0.500	0.50	0.50	770628	2
Zinc	w	72-77	8(4)	0.00	0.500	10.00	39.99	751017	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770628	1	2.00	2.00	0.00	NA	858
Cadmium	w	770628	1	10.00	10.00	0.00	0.9861	NA
Chromium	w	770628	1	10.00	10.00	0.00	0.0572	NA
Copper	w	770628	1	10.00	10.00	0.00	0.0077	NA
Lead	w	770628	1	2.00	2.00	0.00	0.0409	NA
Mercury	w	770628	1	0.50	0.50	0.00	0.0072	NA
Zinc	w	770628	1	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Accokeek Creek	<u>Station</u>	1AACC006.13
<u>R. Mile</u>	006.13	<u>Agency</u>	VASWCB
<u>Location</u>	Route 608 Bridge, Stafford Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	77-79	4(4)	-0.50	0.270	2.00	2.00	781113	3
Cadmium	w	77-79	4(3)	10.00	0.270	10.00	30.00	790313	1
Chromium	w	77-79	4(4)	0.00	0.270	10.00	10.00	790313	2
Copper	w	77-79	4(4)	0.00	0.270	10.00	10.00	790313	2
Lead	w	77-79	3(0)	NA	NA	3.00	5.00	781113	1
Mercury	w	77-79	4(3)	-1.15	0.150	0.40	2.60	770317	1
Zinc	w	77-79	4(3)	0.00	0.270	10.00	20.00	781113	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790313	2	1.50	1.50	0.71	NA	644
Cadmium	w	790313	2	20.00	20.00	14.14	1.9724	NA
Chromium	w	790313	2	10.00	10.00	0.00	0.0572	NA
Copper	w	790313	2	10.00	10.00	0.00	0.0077	NA
Lead	w	790313	2	4.00	4.00	1.41	0.0817	NA
Mercury	w	790313	2	0.30	0.30	0.00	0.0043	NA
Zinc	w	790313	2	15.00	15.00	7.07	0.0020	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Potomac Creek	<u>Station</u>	1APOM001.04
<u>R. Mile</u>	001.04	<u>Agency</u>	VASWCB
<u>Location</u>	Buoy 5 Potomac Creek, Stafford Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	72-77	4(4)	NA	NA	2.50	5.00	720521	1
Cadmium	w	72-77	6(5)	NA	NA	10.00	10.00	770628	5
Chromium	w	72-77	8(6)	0.00	0.500	10.00	10.00	770628	8
Copper	w	72-77	8(6)	0.00	0.500	10.00	19.99	770628	1
Lead	w	72-77	7(5)	NA	NA	10.00	11.99	751017	1
Mercury	w	72-77	8(6)	0.00	0.500	0.50	0.60	751017	1
Zinc	w	72-77	8(5)	20.00	0.270	10.00	49.99	740506	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770628	1	2.00	2.00	0.00	NA	858
Cadmium	w	770628	1	10.00	10.00	0.00	0.9861	NA
Chromium	w	770628	1	10.00	10.00	0.00	0.0572	NA
Copper	w	770628	1	19.99	19.99	0.00	0.0155	NA
Lead	w	770628	1	2.00	2.00	0.00	0.0409	NA
Mercury	w	770628	1	0.50	0.50	0.00	0.0072	NA
Zinc	w	770628	1	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Wards Run	<u>Station</u>	WDS0018
<u>R. Mile</u>	1.80	<u>Agency</u>	MDOEP
<u>Location</u>	MD 6 Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740402	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740402	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740402	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740402	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740402	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740402	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740402	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740402	1	0.05	0.05	0.00	NA	NA
Lead	w	740402	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740402	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Najemoy Creek	<u>Station</u>	XDB6719
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Mid-channel: off mouth of Boot Creek		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	2(2)	NA	NA	0.07	0.10	740603	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740402	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740402	1
Lead	w	74-74	2(2)	NA	NA	0.20	0.30	740402	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740402	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740603	2	0.07	0.07	0.05	0.0064	NA
Chromium	w	740402	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740402	1	0.05	0.05	0.00	NA	NA
Lead	w	740603	2	0.20	0.20	0.14	0.0041	NA
Mercury	w	740402	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Nanjemoy Creek	<u>Station</u>	NAJ0100
<u>R. Mile</u>	10.00	<u>Agency</u>	MDOEP
<u>Location</u>	Trappe Bridge, MD 6		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740402	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740402	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740402	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740402	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740402	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740402	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740402	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740402	1	0.05	0.05	0.00	NA	NA
Lead	w	740402	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740402	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Mill Run	<u>Station</u>	MYL0008
<u>R. Mile</u>	.80	<u>Agency</u>	MDOEP
<u>Location</u>	MD 6 Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740402	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740402	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740402	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740402	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740402	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740402	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740402	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740402	1	0.05	0.05	0.00	NA	NA
Lead	w	740402	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740402	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Najemoy Creek	<u>Station</u>	XDB4532
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Mid Channel at Blossom Pt. & Benny Gray Point		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	3(3)	NA	NA	0.03	0.10	740603	1
Chromium	w	74-74	2(2)	NA	NA	0.10	0.10	740625	2
Copper	w	74-74	2(2)	NA	NA	0.04	0.05	740402	1
Lead	w	74-74	3(3)	NA	NA	0.10	0.30	740402	1
Mercury	w	74-74	2(2)	NA	NA	0.00	0.00	740625	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740625	3	0.03	0.05	0.04	0.0030	NA
Chromium	w	740625	2	0.10	0.10	0.00	0.0006	NA
Copper	w	740625	2	0.04	0.04	0.01	NA	NA
Lead	w	740625	3	0.10	0.17	0.12	0.0020	NA
Mercury	w	740625	2	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	XDB4680
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	0.8 mi. NE of FL 5 & 0.35 mi. SE of FL 6		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	68-71	10(9)	NA	NA	0.04	0.10	690317	1
Chromium	w	68-71	10(9)	NA	NA	0.04	0.10	701125	2
Copper	w	68-71	10(8)	NA	NA	0.03	0.05	710823	3

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	710823	4	0.05	0.05	0.01	0.0049	NA
Chromium	w	710823	5	0.05	0.06	0.04	0.0003	NA
Copper	w	710823	4	0.04	0.04	0.01	NA	NA

<u>River</u>	Potomac River	<u>Station</u>	XDB3321
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Buoy 13 off mouth of Nanjemoy Creek		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	2(2)	NA	NA	0.03	0.03	740625	2
Chromium	w	74-74	2(2)	NA	NA	0.10	0.10	740625	2
Copper	w	74-74	2(2)	NA	NA	0.04	0.05	740402	1
Lead	w	74-74	2(2)	NA	NA	0.20	0.30	740402	1
Mercury	w	74-74	2(2)	NA	NA	0.00	0.00	740625	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740625	2	0.03	0.03	0.00	0.0030	NA
Chromium	w	740625	2	0.10	0.10	0.00	0.0006	NA
Copper	w	740625	2	0.04	0.04	0.01	NA	NA
Lead	w	740625	2	0.20	0.20	0.14	0.0041	NA
Mercury	w	740625	2	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	XDB3853
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	0.42 naut. mi. W. of C7 & 0.87 mi. SE of Upper Cedar Point		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	68-71	10(9)	NA	NA	0.04	0.10	690317	1
Chromium	w	68-71	9(8)	NA	NA	0.05	0.10	701125	2
Copper	w	68-71	12(9)	NA	NA	0.03	0.05	710823	4

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	710823	4	0.05	0.05	0.01	0.0049	NA
Chromium	w	710823	4	0.08	0.08	0.03	0.0004	NA
Copper	w	710823	5	0.05	0.04	0.01	NA	NA

<u>River</u>	Port Tobacco Creek	<u>Station</u>	PTC0006
<u>R. Mile</u>	.60	<u>Agency</u>	MDOEP
<u>Location</u>	MD 6 crossing		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740402	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740402	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740402	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740402	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740402	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740402	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740402	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740402	1	0.05	0.05	0.00	NA	NA
Lead	w	740402	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740402	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Port Tobacco Creek	<u>Station</u>	XDB9786
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Just W. of Warehouse Point		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	2(2)	NA	NA	0.07	0.10	740603	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740402	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740402	1
Lead	w	74-74	2(2)	NA	NA	0.20	0.30	740402	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740402	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740603	2	0.07	0.07	0.05	0.0064	NA
Chromium	w	740402	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740402	1	0.05	0.05	0.00	NA	NA
Lead	w	740603	2	0.20	0.20	0.14	0.0041	NA
Mercury	w	740402	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Port Tobacco River	<u>Station</u>	XDB6884
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Mid-channel: E. of Windmill Point		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	3(3)	NA	NA	0.03	0.10	740603	1
Chromium	w	74-74	2(2)	NA	NA	0.10	0.10	740625	2
Copper	w	74-74	2(2)	NA	NA	0.04	0.05	740402	1
Lead	w	74-74	3(3)	NA	NA	0.10	0.30	740402	1
Mercury	w	74-74	2(2)	NA	NA	0.00	0.00	740625	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740625	3	0.03	0.05	0.04	0.0030	NA
Chromium	w	740625	2	0.10	0.10	0.00	0.0006	NA
Copper	w	740625	2	0.04	0.04	0.01	NA	NA
Lead	w	740625	3	0.10	0.17	0.12	0.0020	NA
Mercury	w	740625	2	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	XDB3499
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	0.7 naut. miles SW of mouth of Popes Creek		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	68-71	10(8)	NA	NA	0.04	0.10	690317	1
Chromium	w	68-71	10(10)	NA	NA	0.03	0.10	701125	2
Copper	w	68-71	11(8)	NA	NA	0.03	0.05	710823	4

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	710823	4	0.05	0.05	0.01	0.0049	NA
Chromium	w	710823	4	0.08	0.08	0.03	0.0004	NA
Copper	w	710823	5	0.05	0.04	0.01	NA	NA

<u>River</u>	Gambo Creek	<u>Station</u>	1AGAM003.83
<u>R. Mile</u>	003.83	<u>Agency</u>	VASWCB
<u>Location</u>	Route 635 Bridge, King George Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	73-74	2(2)	NA	NA	10.00	10.00	740519	2
Copper	w	73-74	2(1)	NA	NA	10.00	10.00	740519	2
Lead	w	74-74	1(1)	NA	NA	10.00	10.00	740519	1
Mercury	w	73-74	2(2)	NA	NA	0.50	0.50	740519	2
Zinc	w	73-74	2(0)	NA	NA	10.00	10.00	740519	2
Aldrin	w	74-74	1(0)	NA	NA	0.70	0.70	740519	1
Dieldrin	w	74-74	1(0)	NA	NA	0.07	0.07	740519	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	740519	2	10.00	10.00	0.00	0.0572	NA
Copper	w	740519	2	10.00	10.00	0.00	0.0077	NA
Lead	w	740519	1	10.00	10.00	0.00	0.2043	NA
Mercury	w	740519	2	0.50	0.50	0.00	0.0071	NA
Zinc	w	740519	2	10.00	10.00	0.00	0.0014	NA
Aldrin	w	740519	1	0.70	0.70	0.00	0.6672	228
Dieldrin	w	740519	1	0.07	0.07	0.00	NA	60

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Gambo Creek	<u>Station</u>	1AGAM003.50
<u>R. Mile</u>	003.50	<u>Agency</u>	VASWCB
<u>Location</u>	Route 301 Bridge, King George Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-75	6(4)	NA	NA	5.00	109.90	751015	1
Cadmium	w	71-72	6(5)	NA	NA	10.00	10.00	720802	6
Chromium	w	70-75	14(10)	0.00	0.500	10.00	19.99	700406	1
Copper	w	70-75	14(6)	0.00	0.500	10.00	29.99	751015	1
Lead	w	70-75	13(4)	-2.00	0.270	10.00	27.99	751015	1
Mercury	w	70-75	14(12)	0.07	0.190	0.50	5.00	710607	1
Zinc	w	70-75	13(4)	0.00	0.500	19.99	939.90	751015	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	751015	1	109.90	109.90	0.00	NA	47147
Cadmium	w	720802	4	10.00	10.00	0.00	0.9861	NA
Chromium	w	751015	2	10.00	10.00	0.00	0.0572	NA
Copper	w	751015	2	19.99	19.99	14.14	0.0155	NA
Lead	w	751015	2	15.99	15.99	16.96	0.3268	NA
Mercury	w	751015	2	0.85	0.85	0.07	0.0122	NA
Zinc	w	751015	2	474.95	474.95	657.54	0.0647	NA

<u>River</u>	Williams Creek	<u>Station</u>	1AWLL003.02
<u>R. Mile</u>	003.02	<u>Agency</u>	VASWCB
<u>Location</u>	Route 624 Bridge N. of Dahlgren, King George Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	73-74	2(2)	NA	NA	505.00	1000.00	740519	1
Copper	w	73-74	2(0)	NA	NA	14.99	19.99	740519	1
Lead	w	74-74	1(1)	NA	NA	10.00	10.00	740519	1
Mercury	w	73-74	2(2)	NA	NA	0.50	0.50	740519	2
Zinc	w	73-74	2(1)	NA	NA	19.99	29.99	730530	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	740519	2	505.00	505.00	700.04	2.8886	NA
Copper	w	740519	2	14.99	14.99	7.06	0.0116	NA
Lead	w	740519	1	10.00	10.00	0.00	0.2043	NA
Mercury	w	740519	2	0.50	0.50	0.00	0.0071	NA
Zinc	w	740519	2	19.99	19.99	14.14	0.0027	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Williams Creek	<u>Station</u>	1AWLL002.21
<u>R. Mile</u>	002.21	<u>Agency</u>	VASWCB
<u>Location</u>	Route 301 Bridge, King George Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-79	10(9)	-0.43	0.270	2.50	5.00	720530	4
Cadmium	w	71-79	11(11)	0.00	0.270	10.00	10.00	790312	3
Chromium	w	70-79	20(13)	0.00	0.230	10.00	29.99	700720	1
Copper	w	70-79	19(13)	0.00	0.150	10.00	49.99	701116	1
Lead	w	70-79	18(7)	-0.33	0.500	10.00	20.00	780417	1
Mercury	w	70-79	18(18)	0.00	0.150	0.50	0.50	771116	4
Zinc	w	70-79	20(7)	0.00	0.070	10.00	59.99	751015	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Data	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	790312	3	2.00	1.67	0.58	NA	858
Cadmium	w	790312	3	10.00	10.00	0.00	0.9862	NA
Chromium	w	790312	3	10.00	10.00	0.00	0.0572	NA
Copper	w	790312	3	10.00	10.00	0.00	0.0077	NA
Lead	w	790312	3	10.00	13.00	6.08	0.2043	NA
Mercury	w	790312	3	0.30	0.37	0.12	0.0043	NA
Zinc	w	790312	3	30.00	26.67	5.77	0.0041	NA

<u>River</u>	Williams Creek	<u>Station</u>	1AWLL001.30
<u>R. Mile</u>	46.79-1.40-1.30	<u>Agency</u>	VASWCB
<u>Location</u>	Route 206 Bridge near Dahlgren, King George Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	81-86	5(0)	NA	NA	12.30	14.60	860821	1
Arsenic	w	75-86	12(6)	0.17	0.350	2.00	3.00	751015	1
Beryllium	s	83-83	1(1)	NA	NA	2.50	2.50	830526	1
Beryllium	w	83-86	4(3)	NA	NA	2.05	3.30	840516	1
Cadmium	s	81-86	5(2)	NA	NA	0.21	1.31	840516	1
Cadmium	w	77-86	11(8)	2.83	0.070	10.00	30.00	791009	1
Chromium	w	73-86	15(13)	0.00	0.500	10.00	99.99	730530	1
Chromium	s	81-86	5(0)	NA	NA	20.40	41.80	830526	1
Copper	s	81-86	5(0)	NA	NA	18.70	44.30	830526	1
Copper	w	73-86	15(9)	0.00	0.370	10.00	99.99	730530	1
Lead	s	81-86	5(0)	NA	NA	30.20	64.00	830526	1
Lead	w	74-86	14(9)	-0.33	0.190	2.50	12.99	770401	2
Mercury	s	81-86	5(4)	NA	NA	0.19	0.20	840516	2
Mercury	w	73-86	15(14)	0.00	0.270	0.30	0.50	771116	4
Nickel	s	81-86	5(0)	NA	NA	10.40	27.10	830526	1
Nickel	w	79-86	7(2)	23.33	0.050	40.00	100.00	860722	1
Selenium	w	83-86	4(3)	NA	NA	2.05	9.80	840516	1
Zinc	s	81-86	5(0)	NA	NA	79.10	194.00	830526	1
Zinc	w	73-86	15(5)	15.00	0.110	10.00	210.00	850717	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830526	1
Aldrin	w	74-74	1(0)	NA	NA	0.10	0.10	740519	1
Dieldrin	w	74-74	1(0)	NA	NA	0.10	0.10	740519	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

Station LAWLL001.30 (Cont'd.)

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Med-ian	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860821	2	13.35	13.35	1.77	NA	NA
Arsenic	w	860722	1	2.00	2.00	0.00	NA	858
Beryllium	s	830526	1	2.50	2.50	0.00	NA	NA
Beryllium	w	860821	2	2.05	2.05	0.07	0.1173	NA
Cadmium	s	860821	2	0.20	0.20	0.01	NA	NA
Cadmium	w	860722	1	15.00	15.00	0.00	1.4793	NA
Chromium	w	860722	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860821	2	16.85	16.85	5.02	NA	NA
Copper	s	860821	2	13.20	13.20	7.78	NA	NA
Copper	w	860722	1	10.00	10.00	0.00	0.0077	NA
Lead	s	860821	2	27.60	27.60	3.68	NA	NA
Lead	w	860722	1	1.00	1.00	0.00	0.0204	NA
Mercury	s	860821	2	0.10	0.10	0.01	NA	NA
Mercury	w	860722	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860821	2	8.25	8.25	3.04	NA	NA
Nickel	w	860722	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860821	2	2.05	2.05	0.07	0.0195	NA
Zinc	s	860821	2	51.65	51.65	38.82	NA	NA
Zinc	w	860722	1	40.00	40.00	0.00	0.0054	NA
Aldrin	s	830526	1	0.02	0.02	0.00	NA	NA
Aldrin	w	740519	1	0.10	0.10	0.00	0.0953	33
Dieldrin	w	740519	1	0.10	0.10	0.00	NA	86

<u>River</u>	Williams Creek	<u>Station</u>	LAWLL000.00
<u>R. Mile</u>	000.00	<u>Agency</u>	VASWCB
<u>Location</u>	At Mouth, King George Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-77	6(6)	NA	NA	5.00	5.00	720530	4
Cadmium	w	71-77	5(4)	NA	NA	10.00	10.00	770513	5
Chromium	w	70-77	15(11)	0.00	0.500	10.00	39.99	700720	1
Copper	w	70-77	14(10)	0.00	0.500	10.00	49.99	701116	1
Lead	w	70-77	13(10)	-0.70	0.500	10.00	15.99	750513	1
Mercury	w	70-77	13(13)	0.00	0.070	0.50	0.50	770513	3
Zinc	w	70-77	15(5)	0.00	0.500	10.00	49.99	710809	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Med-ian	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770513	1	2.00	2.00	0.00	NA	858
Cadmium	w	770513	1	10.00	10.00	0.00	0.9861	NA
Chromium	w	770513	1	10.00	10.00	0.00	0.0572	NA
Copper	w	770513	1	10.00	10.00	0.00	0.0077	NA
Lead	w	770513	1	3.00	3.00	0.00	0.0613	NA
Mercury	w	770513	1	0.50	0.50	0.00	0.0072	NA
Zinc	w	770513	1	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Upper Machodoc	<u>Station</u>	XCB9070
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Lat. 38 19 00 Long. 77 03 00		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	f	74-74	1(0)	NA	NA	0.97	0.97	740401	1
Copper	f	74-74	1(0)	NA	NA	68.20	68.20	740401	1
Zinc	f	74-74	1(0)	NA	NA	806.00	806.00	740401	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	f	740401	1	0.97	0.97	0.00	0.3107	NA
Copper	f	740401	1	68.20	68.20	0.00	0.1712	NA
Zinc	f	740401	1	806.00	806.00	0.00	0.3566	NA

<u>River</u>	Upper Machodoc Creek	<u>Station</u>	1AUMC009.61
<u>R. Mile</u>	009.61	<u>Agency</u>	VASWCB
<u>Location</u>	Route 301 Bridge, King George Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	77-78	3(3)	NA	NA	2.00	2.00	781221	3
Cadmium	w	77-78	3(3)	NA	NA	10.00	10.00	781221	2
Chromium	w	73-78	6(5)	0.00	0.500	10.00	10.00	781221	2
Copper	w	73-78	6(5)	0.00	0.500	10.00	10.00	781221	2
Lead	w	74-78	5(2)	NA	NA	10.00	16.99	750513	1
Mercury	w	73-78	6(5)	0.30	0.270	0.50	1.10	750513	1
Zinc	w	73-78	6(5)	15.00	0.270	10.00	39.99	750513	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	781221	2	2.00	2.00	0.00	NA	858
Cadmium	w	781221	2	10.00	10.00	0.00	0.9862	NA
Chromium	w	781221	2	10.00	10.00	0.00	0.0572	NA
Copper	w	781221	2	10.00	10.00	0.00	0.0077	NA
Lead	w	781221	2	8.50	8.50	9.19	0.1736	NA
Mercury	w	781221	2	0.40	0.40	0.14	0.0057	NA
Zinc	w	781221	2	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Upper Machodoc Creek	<u>Station</u>	1AUMC004.43
<u>R. Mile</u>	46.79-4.43	<u>Agency</u>	VASWCB
<u>Location</u>	Route 218 Bridge, King George Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	s	81-86	6(1)	NA	NA	6.20	8.30	851029	1
Arsenic	w	75-86	12(5)	0.33	0.190	1.50	3.00	860722	2
Beryllium	s	83-83	1(1)	NA	NA	2.00	2.00	830526	1
Beryllium	w	83-86	4(4)	NA	NA	2.00	2.20	840516	1
Cadmium	s	81-86	6(1)	NA	NA	0.63	1.00	820414	1
Cadmium	w	77-86	11(8)	9.50	0.070	10.00	55.00	860722	1
Chromium	w	73-86	15(13)	0.00	0.500	10.00	70.00	810930	1
Chromium	s	81-86	6(0)	NA	NA	16.70	23.50	820414	1
Copper	s	81-86	6(0)	NA	NA	7.30	13.10	820414	1
Copper	w	73-86	15(10)	0.00	0.500	10.00	20.00	810930	1
Lead	s	81-86	6(0)	NA	NA	11.55	50.30	820414	1
Lead	w	74-86	14(4)	-0.33	0.190	4.00	15.00	810930	2
Mercury	s	81-86	6(5)	NA	NA	0.15	0.20	810409	1
Mercury	w	73-86	15(15)	0.00	0.270	0.30	0.50	771116	4
Nickel	s	81-86	6(1)	NA	NA	6.50	12.70	820414	1
Nickel	w	79-86	6(2)	25.83	0.050	40.00	100.00	860722	1
Selenium	w	83-86	4(4)	NA	NA	2.00	2.20	840516	1
Zinc	s	81-86	6(0)	NA	NA	51.45	77.10	820414	1
Zinc	w	73-86	15(3)	9.99	0.270	20.00	220.00	850717	1
Aldrin	s	83-83	1(0)	NA	NA	0.02	0.02	830526	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	s	860821	2	7.00	7.00	1.84	NA	NA
Arsenic	w	860722	1	3.00	3.00	0.00	NA	1287
Beryllium	s	830526	1	2.00	2.00	0.00	NA	NA
Beryllium	w	860821	2	2.00	2.00	0.14	0.1144	NA
Cadmium	s	860821	2	0.20	0.20	0.01	NA	NA
Cadmium	w	860722	1	55.00	55.00	0.00	5.4241	NA
Chromium	w	860722	1	1.00	1.00	0.00	0.0057	NA
Chromium	s	860821	2	9.95	9.95	1.77	NA	NA
Copper	s	860821	2	3.10	3.10	0.57	NA	NA
Copper	w	860722	1	10.00	10.00	0.00	0.0077	NA
Lead	s	860821	2	6.90	6.90	0.99	NA	NA
Lead	w	860722	1	1.00	1.00	0.00	0.0204	NA
Mercury	s	860821	2	0.10	0.10	0.00	NA	NA
Mercury	w	860722	1	0.30	0.30	0.00	0.0043	NA
Nickel	s	860821	2	3.00	3.00	1.56	NA	NA
Nickel	w	860722	1	100.00	100.00	0.00	0.2860	NA
Selenium	w	860821	2	2.00	2.00	0.14	0.0191	NA
Zinc	s	860821	2	19.25	19.25	6.58	NA	NA
Zinc	w	860722	1	60.00	60.00	0.00	0.0082	NA
Aldrin	s	830526	1	0.02	0.02	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Upper Machodoc Creek	<u>Station</u>	1AUMC002.32
<u>R. Mile</u>	002.32	<u>Agency</u>	VASWCB
<u>Location</u>	At Power Cables, King George Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	73-74	3(2)	NA	NA	10.00	10.00	740519	3
Copper	w	73-74	3(2)	NA	NA	10.00	10.00	740519	3
Lead	w	74-74	1(1)	NA	NA	10.00	10.00	740519	1
Mercury	w	73-74	3(3)	NA	NA	0.50	0.50	740519	3
Zinc	w	73-74	3(2)	NA	NA	10.00	19.99	730530	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	740519	3	10.00	10.00	0.00	0.0572	NA
Copper	w	740519	3	10.00	10.00	0.00	0.0077	NA
Lead	w	740519	1	10.00	10.00	0.00	0.2043	NA
Mercury	w	740519	3	0.50	0.50	0.00	0.0071	NA
Zinc	w	740519	3	10.00	13.33	5.77	0.0014	NA

<u>River</u>	Upper Machodoc Creek	<u>Station</u>	1AUMC000.61
<u>R. Mile</u>	000.61	<u>Agency</u>	VASWCB
<u>Location</u>	King George Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	71-72	4(4)	NA	NA	5.00	5.00	721222	4
Cadmium	w	71-72	5(3)	NA	NA	10.00	10.00	721222	5
Chromium	w	71-74	8(4)	NA	NA	10.00	10.00	740519	8
Copper	w	71-74	8(6)	NA	NA	10.00	19.99	740519	2
Lead	w	71-74	8(8)	NA	NA	10.00	10.00	740519	8
Mercury	w	71-74	8(8)	NA	NA	0.50	0.50	740519	8
Zinc	w	71-74	8(3)	NA	NA	10.00	29.99	710809	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	721222	2	5.00	5.00	0.00	NA	2145
Cadmium	w	721222	3	10.00	10.00	0.00	0.9861	NA
Chromium	w	740519	1	10.00	10.00	0.00	0.0572	NA
Copper	w	740519	1	19.99	19.99	0.00	0.0155	NA
Lead	w	740519	1	10.00	10.00	0.00	0.2043	NA
Mercury	w	740519	1	0.50	0.50	0.00	0.0071	NA
Zinc	w	740519	1	10.00	10.00	0.00	0.0014	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Upper Machodoc Creek	<u>Station</u> 1AMUC001.36
<u>R. Mile</u>	001.36	<u>Agency</u> VASWCB
<u>Location</u>	Near Mouth of Williams Creek, King George Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-77	2(2)	NA	NA	2.50	3.00	751015	1
Cadmium	w	77-77	1(0)	NA	NA	10.00	10.00	770513	1
Chromium	w	73-77	5(2)	0.00	0.500	10.00	10.00	770513	5
Copper	w	73-77	5(3)	0.00	0.500	10.00	10.00	770513	5
Lead	w	74-77	4(3)	-2.33	0.270	6.50	10.00	751015	2
Mercury	w	73-77	5(5)	0.00	0.120	0.50	0.50	770513	3
Zinc	w	73-77	5(2)	-1.25	0.190	10.00	19.99	751015	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	770513	1	2.00	2.00	0.00	NA	858
Cadmium	w	770513	1	10.00	10.00	0.00	0.9861	NA
Chromium	w	770513	1	10.00	10.00	0.00	0.0572	NA
Copper	w	770513	1	10.00	10.00	0.00	0.0077	NA
Lead	w	770513	1	3.00	3.00	0.00	0.0613	NA
Mercury	w	770513	1	0.50	0.50	0.00	0.0072	NA
Zinc	w	770513	1	10.00	10.00	0.00	0.0014	NA

<u>River</u>	Monroe Creek	<u>Station</u> 1AMON002.60
<u>R. Mile</u>	002.60	<u>Agency</u> VASWCB
<u>Location</u>	End of Route 1164, Westmoreland Co., Va.	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-78	5(4)	-0.17	0.190	2.00	3.00	750924	1
Cadmium	w	74-78	7(6)	0.00	0.190	10.00	10.00	780905	2
Chromium	w	74-78	9(9)	0.00	0.190	10.00	10.00	780905	2
Copper	w	74-78	9(5)	-1.66	0.500	10.00	19.99	750924	2
Lead	w	74-78	9(1)	0.83	0.230	10.00	14.99	770302	1
Mercury	w	74-78	9(9)	-0.03	0.190	0.50	0.50	770919	7
Zinc	w	74-78	9(2)	8.33	0.150	19.99	139.90	740820	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	780905	3	2.00	2.00	0.00	NA	858
Cadmium	w	780905	3	10.00	10.00	0.00	0.9862	NA
Chromium	w	780905	3	10.00	10.00	0.00	0.0572	NA
Copper	w	780905	3	10.00	10.00	0.00	0.0077	NA
Lead	w	780905	3	9.00	7.67	4.16	0.1839	NA
Mercury	w	780905	3	0.50	0.43	0.12	0.0072	NA
Zinc	w	780905	3	30.00	26.66	15.27	0.0041	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	XDC1806
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Mid-channel: 0.06 mi. N. of bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	68-71	10(9)	0.01	0.500	0.04	0.10	690317	1
Chromium	w	69-71	9(9)	0.02	0.500	0.05	0.10	701125	2
Copper	w	68-71	11(9)	0.02	0.150	0.03	0.05	711117	5

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	711117	4	0.04	0.04	0.01	0.0039	NA
Chromium	w	711117	4	0.05	0.06	0.03	0.0003	NA
Copper	w	711117	4	0.05	0.05	0.01	NA	NA

<u>River</u>	Potomac River	<u>Station</u>	XDC1909
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Off Aqualand Deck, 0.06 mi. N. of bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	69-71	8(8)	0.01	0.500	0.04	0.06	700922	1
Chromium	w	69-71	8(8)	0.02	0.500	0.05	0.10	701125	2
Copper	w	69-71	8(7)	0.02	0.150	0.04	0.05	711117	4

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	711117	4	0.04	0.04	0.01	0.0039	NA
Chromium	w	711117	4	0.05	0.06	0.03	0.0003	NA
Copper	w	711117	4	0.05	0.05	0.01	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Potomac Estuary	<u>Station</u>	XDC1706
<u>R. Mile</u>	170.6	<u>Agency</u>	21MDOLEP
<u>Location</u>	Mid-channel at Morgantown Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	78-84	17(2)	0.00	0.500	0.25	0.80	801003	1
Cadmium	f	78-85	19(3)	-0.03	0.500	0.28	0.86	850923	1
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740624	1
Chromium	w	74-85	20(9)	0.04	0.110	0.50	1.40	811015	1
Copper	f	78-85	19(0)	-1.20	0.400	2.70	28.00	811015	2
Lead	f	78-85	19(3)	-0.02	0.500	1.70	4.80	841031	1
Mercury	f	78-85	19(0)	-0.01	0.110	0.04	0.20	820621	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740624	1
Zinc	f	78-85	19(0)	-0.58	0.400	15.00	31.00	821028	1
Alpha BHC	f	78-85	20(5)	0.00	0.500	0.00	0.01	820621	1
Gamma BHC(Lindane)	f	78-85	20(19)	0.00	0.500	0.00	0.00	841031	1
Chlordane	f	78-85	20(0)	0.00	0.310	0.08	0.20	821028	1
Dieldrin	f	78-85	20(6)	0.00	0.110	0.00	0.01	781005	1
Endrin	f	78-85	20(20)	0.00	0.500	0.00	0.00	850923	20
Heptachlor Epoxide	f	78-85	20(14)	0.00	0.050	0.00	0.00	850923	4
Hexachlorobenzene	f	85-85	2(2)	NA	NA	0.00	0.00	850923	2
PCB-1242	f	85-85	2(2)	NA	NA	0.01	0.01	850923	2
PCB-1254	f	85-85	2(0)	NA	NA	0.07	0.08	850923	1
PCB1260	f	85-85	2(0)	NA	NA	0.20	0.30	850923	1
PCB's	f	78-85	20(0)	-0.02	0.230	0.23	0.71	820621	1
P,P'DDD	f	78-85	20(2)	-0.01	0.110	0.01	0.08	820621	1
P,P'DDE	f	78-85	20(0)	-0.01	0.230	0.03	0.11	781005	1
P,P'DDT	f	78-85	20(20)	0.00	0.500	0.00	0.00	850923	20
Toxaphene	f	78-85	20(20)	0.00	0.500	0.01	0.01	850923	20

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	841031	3	0.18	0.16	0.06	NA	251
Cadmium	f	850923	5	0.45	0.51	0.22	0.1442	NA
Cadmium	w	740624	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	850923	5	0.60	0.72	0.29	0.0034	NA
Copper	f	850923	5	6.40	7.88	7.80	0.0161	NA
Lead	f	850923	5	2.00	2.56	1.48	0.1327	NA
Mercury	f	850923	5	0.02	0.03	0.02	0.0011	NA
Mercury	w	740624	1	0.00	0.00	0.00	NA	NA
Zinc	f	850923	5	13.00	14.30	7.09	0.0058	NA
Alpha BHC	f	850923	5	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	850923	5	0.00	0.00	0.00	NA	NA
Chlordane	f	850923	5	0.08	0.07	0.03	0.1393	11
Dieldrin	f	850923	5	0.00	0.00	0.00	NA	6
Endrin	f	850923	5	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	850923	5	0.00	0.00	0.00	0.0062	NA
Hexachlorobenzene	f	850923	2	0.00	0.00	0.00	NA	NA
PCB-1242	f	850923	2	0.01	0.01	0.00	NA	4
PCB-1254	f	850923	2	0.07	0.07	0.01	NA	28
PCB1260	f	850923	2	0.20	0.20	0.13	NA	83
PCB's	f	850923	5	0.24	0.33	0.19	NA	97
P,P'DDD	f	850923	5	0.01	0.02	0.01	NA	NA
P,P'DDE	f	850923	5	0.03	0.04	0.02	NA	NA
P,P'DDT	f	850923	5	0.00	0.00	0.00	NA	NA
Toxaphene	f	850923	5	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	XDC0407
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	0.26 mi. E. FL 33, 803.3, 184.7, near Lower Cedar Pt.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	68-71	11(10)	0.01	0.500	0.03	0.10	690317	1
Chromium	w	68-71	10(9)	0.02	0.500	0.05	0.10	701125	2
Copper	w	68-71	12(8)	0.02	0.150	0.04	0.06	690827	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	711117	4	0.04	0.04	0.01	0.0039	NA
Chromium	w	711117	4	0.05	0.06	0.03	0.0003	NA
Copper	w	711117	4	0.05	0.05	0.01	NA	NA

<u>River</u>	Potomac River	<u>Station</u>	XDC0511
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	0.16 mi. E. Lower Cedar Point		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	69-71	9(9)	0.01	0.500	0.04	0.10	690317	1
Chromium	w	69-71	9(9)	0.02	0.500	0.05	0.10	701125	2
Copper	w	69-71	9(7)	0.02	0.150	0.05	0.06	690827	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	711117	4	0.04	0.04	0.01	0.0039	NA
Chromium	w	711117	4	0.05	0.06	0.03	0.0003	NA
Copper	w	711117	4	0.05	0.05	0.01	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Pine Hill Creek	<u>Station</u>	1APIN000.57
<u>R. Mile</u>	000.57	<u>Agency</u>	VASWCB
<u>Location</u>	Route 205 Bridge, King George, Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	75-78	6(6)	-0.33	0.270	2.00	3.00	751015	1
Cadmium	w	77-78	5(5)	NA	NA	10.00	10.00	781221	3
Chromium	w	75-78	6(6)	0.00	0.270	10.00	10.00	781221	3
Copper	w	75-78	6(6)	0.00	0.270	10.00	10.00	781221	3
Lead	w	75-78	6(2)	1.00	0.150	3.50	10.00	780417	1
Mercury	w	75-78	6(5)	-0.07	0.270	0.50	0.80	770401	1
Zinc	w	75-78	6(3)	3.33	0.500	10.00	329.90	771024	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	781221	3	2.00	2.00	0.00	NA	858
Cadmium	w	781221	3	10.00	10.00	0.00	0.9862	NA
Chromium	w	781221	3	10.00	10.00	0.00	0.0572	NA
Copper	w	781221	3	10.00	10.00	0.00	0.0077	NA
Lead	w	781221	3	6.00	6.33	3.51	0.1226	NA
Mercury	w	781221	3	0.30	0.37	0.12	0.0043	NA
Zinc	w	781221	3	10.00	13.33	5.77	0.0014	NA

<u>River</u>	Potomac River	<u>Station</u>	XCC6634
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Mid-channel: Swan Pt. and White Pt.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	68-71	10(9)	0.01	0.500	0.03	0.06	700922	1
Chromium	w	68-71	10(9)	0.02	0.500	0.05	0.10	701125	2
Copper	w	68-71	12(7)	0.02	0.150	0.05	0.06	700922	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	711117	4	0.04	0.04	0.01	0.0039	NA
Chromium	w	711117	4	0.05	0.06	0.03	0.0003	NA
Copper	w	711117	4	0.05	0.05	0.01	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Unnamed Tributary	<u>Station</u>	UWN0002
<u>R. Mile</u>	.20	<u>Agency</u>	MDOEP
<u>Location</u>	On MD 5 just SE of MD 382 junction.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740403	1
Chromium	w	74-74	1(0)	NA	NA	0.10	0.10	740403	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740403	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740403	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740403	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740403	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740403	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740403	1	0.05	0.05	0.00	NA	NA
Lead	w	740403	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740403	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Jordan Swamp	<u>Station</u>	JOR0030
<u>R. Mile</u>	3.00	<u>Agency</u>	MDOEP
<u>Location</u>	Rt. 382 X-ing, just W. of Mattawoman - Beantown Rd.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740403	1
Chromium	w	74-74	1(0)	NA	NA	0.10	0.10	740403	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740403	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740403	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740403	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740403	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740403	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740403	1	0.05	0.05	0.00	NA	NA
Lead	w	740403	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740403	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Zekiah Swamp Run	<u>Station</u>	ZEK0117
<u>R. Mile</u>	11.70	<u>Agency</u>	MDOEP
<u>Location</u>	MD Rt. 5 Crossing		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740403	1
Chromium	w	74-74	1(0)	NA	NA	0.10	0.10	740403	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740403	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740403	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740403	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740403	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740403	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740403	1	0.05	0.05	0.00	NA	NA
Lead	w	740403	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740403	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Allens Fresh Run	<u>Station</u>	AFR0025
<u>R. Mile</u>	2.50	<u>Agency</u>	MDOEP
<u>Location</u>	Bridge on MD. Rt. 234		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740403	1
Chromium	w	74-74	1(0)	NA	NA	0.10	0.10	740403	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740403	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740403	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740403	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740403	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740403	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740403	1	0.05	0.05	0.00	NA	NA
Lead	w	740403	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740403	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Gilbert Creek	<u>Station</u>	GIC0085
<u>R. Mile</u>	8.50	<u>Agency</u>	MDOEP
<u>Location</u>	Bridge where Keech Rd. meets Oaks Rd. 1.6 miles W. of Oaks		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740403	1
Chromium	w	74-74	1(0)	NA	NA	0.10	0.10	740403	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740403	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740403	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740403	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740403	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740403	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740403	1	0.05	0.05	0.00	NA	NA
Lead	w	740403	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740403	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Gilbert Creek	<u>Station</u>	GIC0004
<u>R. Mile</u>	.40	<u>Agency</u>	MDOEP
<u>Location</u>	MD 234 - Budds Cr. Rd. Bridge		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740403	1
Chromium	w	74-74	1(0)	NA	NA	0.10	0.10	740403	1
Copper	w	74-74	1(1)	NA	NA	0.05	0.05	740403	1
Lead	w	74-74	1(1)	NA	NA	0.30	0.30	740403	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740403	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740403	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740403	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740403	1	0.05	0.05	0.00	NA	NA
Lead	w	740403	1	0.30	0.30	0.00	0.0061	NA
Mercury	w	740403	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Unnamed Tributary	<u>Station</u>	UQI0003
<u>R. Mile</u>	.30	<u>Agency</u>	MDOEP
<u>Location</u>	1st trib.E.-Clover Hill Rd. on Land O'Lake Comm.Rd., 1 mi.fr.235		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770426	1
Copper	w	77-77	1(1)	NA	NA	0.05	0.05	770426	1
Lead	w	77-77	1(1)	NA	NA	0.50	0.50	770426	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770426	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770426	1	0.05	0.05	0.00	NA	NA
Lead	w	770426	1	0.50	0.50	0.00	0.0102	NA

<u>River</u>	Unnamed Tributary	<u>Station</u>	UQK0004
<u>R. Mile</u>	.40	<u>Agency</u>	MDOEP
<u>Location</u>	100 Yds.below pond S.MD Wood Treat.Co., 0.6 mi.W.Hollywood.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770426	1
Copper	w	77-77	1(1)	NA	NA	0.05	0.05	770426	1
Lead	w	77-77	1(1)	NA	NA	0.50	0.50	770426	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770426	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770426	1	0.05	0.05	0.00	NA	NA
Lead	w	770426	1	0.50	0.50	0.00	0.0102	NA

<u>River</u>	Unnamed Tributary	<u>Station</u>	UQJ0010
<u>R. Mile</u>	1.00	<u>Agency</u>	MDOEP
<u>Location</u>	Morgan Rd.X-ing of 1st trib.Brooks Run N and W of Rt.245.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770426	1
Copper	w	77-77	1(1)	NA	NA	0.05	0.05	770426	1
Lead	w	77-77	1(1)	NA	NA	0.50	0.50	770426	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770426	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770426	1	0.05	0.05	0.00	NA	NA
Lead	w	770426	1	0.50	0.50	0.00	0.0102	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Brooks Run	<u>Station</u>	BSK0013
<u>R. Mile</u>	1.29	<u>Agency</u>	MDOEP
<u>Location</u>	MD 245 crossing, 1.7 mi. from MD 235, 1.7 mi. S.W. of Hollywood		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770426	1
Copper	w	77-77	1(1)	NA	NA	0.05	0.05	770426	1
Lead	w	77-77	1(1)	NA	NA	0.50	0.50	770426	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770426	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770426	1	0.05	0.05	0.00	NA	NA
Lead	w	770426	1	0.50	0.50	0.00	0.0102	NA

<u>River</u>	McIntosh Run	<u>Station</u>	MCN0047
<u>R. Mile</u>	4.72	<u>Agency</u>	MDOEP
<u>Location</u>	Clover Hill-McIntosh Rd. X-ing, 2.5 miles NW of Leonardtown.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770426	1
Copper	w	77-77	1(1)	NA	NA	0.05	0.05	770426	1
Lead	w	77-77	1(1)	NA	NA	0.50	0.50	770426	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770426	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770426	1	0.05	0.05	0.00	NA	NA
Lead	w	770426	1	0.50	0.50	0.00	0.0102	NA

<u>River</u>	McIntosh Run	<u>Station</u>	MCN0017
<u>R. Mile</u>	1.70	<u>Agency</u>	MDOEP
<u>Location</u>	MD Rt. 5 crossing, 1.25 miles NW of Leonardtown.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	77-77	1(1)	NA	NA	0.10	0.10	770426	1
Copper	w	77-77	1(1)	NA	NA	0.05	0.05	770426	1
Lead	w	77-77	1(1)	NA	NA	0.50	0.50	770426	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	770426	1	0.10	0.10	0.00	0.0006	NA
Copper	w	770426	1	0.05	0.05	0.00	NA	NA
Lead	w	770426	1	0.50	0.50	0.00	0.0102	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	St. Clement Bay	<u>Station</u>	XCD4364
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	400 yds. SW of Long Point		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Alpha BHC	f	76-76	1(1)	NA	NA	0.00	0.00	760730	1
Gamma BHC(Lindane)	f	76-76	1(1)	NA	NA	0.00	0.00	760730	1
Chlordane	f	76-76	1(1)	NA	NA	0.00	0.00	760730	1
Dieldrin	f	76-76	1(1)	NA	NA	0.00	0.00	760730	1
Endrin	f	76-76	1(1)	NA	NA	0.00	0.00	760730	1
Heptachlor Epoxide	f	76-76	1(1)	NA	NA	0.00	0.00	760730	1
PCB's	f	76-76	1(1)	NA	NA	0.01	0.01	760730	1
P,P'DDD	f	76-76	1(1)	NA	NA	0.00	0.00	760730	1
P,P'DDE	f	76-76	1(1)	NA	NA	0.00	0.00	760730	1
P,P'DDT	f	76-76	1(1)	NA	NA	0.00	0.00	760730	1
Toxaphene	f	76-76	1(1)	NA	NA	0.01	0.01	760730	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Alpha BHC	f	760730	1	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	760730	1	0.00	0.00	0.00	NA	NA
Chlordane	f	760730	1	0.00	0.00	0.00	0.0019	NA
Dieldrin	f	760730	1	0.00	0.00	0.00	NA	1
Endrin	f	760730	1	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	760730	1	0.00	0.00	0.00	0.0015	NA
PCB's	f	760730	1	0.01	0.01	0.00	NA	4
P,P'DDD	f	760730	1	0.00	0.00	0.00	NA	NA
P,P'DDE	f	760730	1	0.00	0.00	0.00	NA	NA
P,P'DDT	f	760730	1	0.00	0.00	0.00	NA	NA
Toxaphene	f	760730	1	0.01	0.01	0.00	NA	1

<u>River</u>	Nomini Creek	<u>Station</u>	XBD6829
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Lat. 38 06 45 Long. 76 42 55		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	f	74-79	17(0)	0.01	0.420	0.43	0.82	770416	1
Copper	f	74-79	17(0)	-1.00	0.280	16.00	66.00	770416	1
Zinc	f	74-79	17(0)	-33.93	0.280	501.00	965.00	780411	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	f	791127	2	0.43	0.43	0.04	0.1361	NA
Copper	f	791127	2	14.50	14.50	2.12	0.0364	NA
Zinc	f	791127	2	350.00	350.00	35.36	0.1548	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Nomini Bay	<u>Station</u>	XBF8885
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Lat. 38 08 45 Long. 76 28 30		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	f	74-79	15(0)	0.01	0.150	0.62	0.82	750515	1
Copper	f	74-79	15(0)	1.42	0.500	18.90	26.00	790403	2
Zinc	f	74-79	15(0)	-3.40	0.500	480.00	900.00	780417	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	f	790403	6	0.62	0.62	0.05	0.1970	NA
Copper	f	790403	6	14.70	17.27	7.12	0.0369	NA
Zinc	f	790403	6	530.00	603.33	219.90	0.2345	NA

<u>River</u>	Lower Machodoc	<u>Station</u>	XBE7084
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Lat. 38 07 00 Long. 76 38 25		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	f	74-79	21(0)	0.01	0.500	0.28	0.48	791127	1
Copper	f	74-79	21(0)	0.05	0.500	7.80	15.00	791127	1
Zinc	f	74-79	21(0)	14.38	0.150	365.00	500.00	781018	1
PCB's	f	71-71	1(0)	NA	NA	0.10	0.10	710518	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	f	791127	3	0.39	0.41	0.06	0.1249	NA
Copper	f	791127	3	12.00	12.67	2.08	0.0301	NA
Zinc	f	791127	3	355.00	368.33	115.58	0.1570	NA
PCB's	f	710518	1	0.10	0.10	0.00	NA	40

<u>River</u>	Potomac River	<u>Station</u>	XBE9541
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	At Buoy BW 51B off Ragged Point		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740624	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740624	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740624	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740624	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740624	1	0.10	0.10	0.00	0.0006	NA
Mercury	w	740624	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	XDA8825
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	1700 yds. W. of Sandy Point		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Krae Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	f	86-86	9(0)	NA	NA	0.14	0.22	860430	1
Chromium	w	86-86	9(9)	NA	NA	0.50	0.50	860502	9
Copper	f	86-86	9(0)	NA	NA	1.60	2.10	860430	1
Lead	f	86-86	9(4)	NA	NA	0.60	2.30	860430	2
Mercury	f	86-86	9(0)	NA	NA	0.01	0.06	860429	1
Zinc	f	86-86	9(0)	NA	NA	3.00	5.80	860429	1
Alpha BHC	f	86-86	9(8)	NA	NA	0.00	0.01	860429	1
Gamma BHC(Lindane)	f	86-86	9(1)	NA	NA	0.00	0.00	860430	5
Chlordane	f	86-86	9(0)	NA	NA	0.12	0.20	860430	1
Dieldrin	f	86-86	9(0)	NA	NA	0.01	0.02	860430	1
Endrin	f	86-86	9(9)	NA	NA	0.00	0.00	860502	9
Heptachlor Epoxide	f	86-86	9(0)	NA	NA	0.00	0.00	860430	2
Hexachlorobenzene	f	86-86	9(5)	NA	NA	-0.00	0.00	860429	1
PCB-1242	f	86-86	9(2)	NA	NA	0.02	0.03	860430	1
PCB-1254	f	86-86	9(0)	NA	NA	0.05	0.06	860502	4
PCB1260	f	86-86	9(0)	NA	NA	0.20	0.26	860430	1
PCB's	f	86-86	9(0)	NA	NA	0.27	0.35	860430	1
P,P'DDD	f	86-86	9(0)	NA	NA	0.06	0.11	860430	1
P,P'DDE	f	86-86	9(0)	NA	NA	0.04	0.06	860430	1
P,P'DDT	f	86-86	9(9)	NA	NA	0.00	0.00	860502	9
Toxaphene	f	86-86	9(9)	NA	NA	0.01	0.01	860502	9

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Med-ian	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	f	860502	9	0.14	0.15	0.04	0.0448	NA
Chromium	w	860502	9	0.50	0.50	0.00	0.0029	NA
Copper	f	860502	9	1.60	1.44	0.46	0.0040	NA
Lead	f	860502	9	0.60	1.00	0.76	0.0398	NA
Mercury	f	860502	9	0.01	0.02	0.02	0.0004	NA
Zinc	f	860502	9	3.00	3.49	1.58	0.0013	NA
Alpha BHC	f	860502	9	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	860502	9	0.00	0.00	0.00	NA	NA
Chlordane	f	860502	9	0.12	0.14	0.04	0.2230	18
Dieldrin	f	860502	9	0.01	0.01	0.00	NA	22
Endrin	f	860502	9	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	860502	9	0.00	0.00	0.00	0.0062	NA
Hexachlorobenzene	f	860502	9	0.00	0.00	0.00	NA	NA
PCB-1242	f	860502	9	0.02	0.02	0.01	NA	8
PCB-1254	f	860502	9	0.05	0.05	0.01	NA	20
PCB1260	f	860502	9	0.20	0.19	0.07	NA	81
PCB's	f	860502	9	0.27	0.25	0.10	NA	109
P,P'DDD	f	860502	9	0.06	0.05	0.03	NA	NA
P,P'DDE	f	860502	9	0.04	0.04	0.01	NA	NA
P,P'DDT	f	860502	9	0.00	0.00	0.00	NA	NA
Toxaphene	f	860502	9	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Yeocomico River	<u>Station</u>	XBE1722
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Lat. 38 01 40 Long. 76 38 25		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	f	74-79	20(0)	0.06	0.070	0.37	0.78	760517	1
Copper	f	74-79	20(0)	2.04	0.110	11.55	74.00	760517	1
Zinc	f	74-79	20(0)	39.13	0.110	425.00	770.00	760517	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	f	791015	6	0.41	0.40	0.03	0.1297	NA
Copper	f	791015	6	21.00	22.10	13.50	0.0527	NA
Zinc	f	791015	6	505.00	503.33	131.40	0.2234	NA

<u>River</u>	Potomac River	<u>Station</u>	XBF6154
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	250 yds. W. of FL R4, 18 ft. depth		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	f	84-84	5(0)	NA	NA	0.10	0.14	840925	1
Cadmium	f	84-84	5(0)	NA	NA	0.33	0.37	840925	1
Chromium	w	84-84	5(4)	NA	NA	0.50	0.70	840925	1
Copper	f	84-84	5(0)	NA	NA	0.74	0.99	840925	1
Lead	f	84-84	5(5)	NA	NA	0.50	0.50	840925	5
Mercury	f	84-84	5(0)	NA	NA	0.01	0.02	840925	1
Zinc	f	84-84	5(0)	NA	NA	9.20	15.00	840925	1
Alpha BHC	f	84-84	5(1)	NA	NA	0.00	0.01	840925	1
Gamma BHC(Lindane)	f	84-84	5(4)	NA	NA	0.00	0.00	840925	1
Chlordane	f	84-84	5(0)	NA	NA	0.06	0.10	840925	1
Dieldrin	f	84-84	5(3)	NA	NA	0.00	0.00	840925	1
Endrin	f	84-84	5(5)	NA	NA	0.00	0.00	840925	5
Heptachlor Epoxida	f	84-84	5(0)	NA	NA	0.01	0.01	840925	1
PCB's	f	84-84	5(0)	NA	NA	0.18	0.26	840925	1
P,P'DDD	f	84-84	5(0)	NA	NA	0.00	0.01	840925	1
P,P'DDE	f	84-84	5(0)	NA	NA	0.03	0.03	840925	1
P,P'DDT	f	84-84	5(5)	NA	NA	0.00	0.00	840925	5
Toxaphene	f	84-84	5(5)	NA	NA	0.01	0.01	840925	5

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	f	840925	5	0.10	0.11	0.02	NA	139
Cadmium	f	840925	5	0.33	0.32	0.05	0.1057	NA
Chromium	w	840925	5	0.50	0.54	0.09	0.0029	NA
Copper	f	840925	5	0.74	0.77	0.14	0.0019	NA
Lead	f	840925	5	0.50	0.50	0.00	0.0332	NA
Mercury	f	840925	5	0.01	0.01	0.00	0.0006	NA
Zinc	f	840925	5	9.20	9.66	4.34	0.0041	NA
Alpha BHC	f	840925	5	0.00	0.00	0.00	NA	2
Gamma BHC(Lindane)	f	840925	5	0.00	0.00	0.00	NA	NA
Chlordane	f	840925	5	0.06	0.06	0.02	0.1133	9
Dieldrin	f	840925	5	0.00	0.00	0.00	NA	1
Endrin	f	840925	5	0.00	0.00	0.00	NA	NA
Heptachlor Epoxida	f	840925	5	0.01	0.01	0.00	0.0217	2
PCB's	f	840925	5	0.18	0.17	0.10	NA	73
P,P'DDD	f	840925	5	0.00	0.00	0.00	NA	NA
P,P'DDE	f	840925	5	0.03	0.03	0.01	NA	NA
P,P'DDT	f	840925	5	0.00	0.00	0.00	NA	NA
Toxaphene	f	840925	5	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Coan River	<u>Station</u>	XAF9685
<u>R. Mile</u>		<u>Agency</u>	VASWCB
<u>Location</u>	Potomac River X-ing, NSSP Station, Northumberland Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	f	74-79	15(0)	0.00	0.500	0.45	0.52	790502	2
Copper	f	74-79	15(0)	-0.65	0.500	12.00	17.80	740401	1
Zinc	f	74-79	15(0)	120.25	0.500	350.00	1100.00	780404	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	f	790502	3	0.48	0.47	0.05	0.1538	NA
Copper	f	790502	3	10.60	10.67	1.30	0.0266	NA
Zinc	f	790502	3	315.00	313.33	37.53	0.1393	NA

<u>River</u>	Coan River	<u>Station</u>	IACOA002.60
<u>R.Mile</u>		<u>Agency</u>	VSWCB
<u>Location</u>	Buoy 19, Northumberland Co., VA		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-76	4(3)	NA	NA	2.00	10.99	730803	1
Cadmium	w	73-76	5(5)	NA	NA	10.00	10.00	760928	3
Chromium	w	73-76	8(5)	0.00	0.500	10.00	10.00	760928	8
Copper	w	73-76	8(4)	0.00	0.500	14.99	39.99	740805	1
Lead	w	73-76	6(1)	NA	NA	9.00	19.99	730809	1
Mercury	w	73-76	8(8)	0.00	0.270	0.50	0.50	760928	4
Zinc	w	73-76	8(4)	0.00	0.500	10.00	29.99	730809	2

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	760928	2	2.00	2.00	0.00	NA	858
Cadmium	w	760928	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	760928	2	10.00	10.00	0.00	0.0572	NA
Copper	w	760928	2	14.99	14.99	7.06	0.0116	NA
Lead	w	760928	2	5.00	5.00	4.24	0.1021	NA
Mercury	w	760928	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	760928	2	14.99	14.99	7.06	0.0020	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Coan River	<u>Station</u>	1ACOA001.74
<u>R. Mile</u>	001.74	<u>Agency</u>	VASWCB
<u>Location</u>	Buoy 14, Northumberland Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-76	4(4)	NA	NA	1.50	2.00	760928	2
Cadmium	w	73-76	5(5)	NA	NA	10.00	10.00	760928	3
Chromium	w	73-76	7(5)	NA	NA	10.00	10.00	760928	7
Copper	w	73-76	7(2)	NA	NA	10.00	39.99	740805	1
Lead	w	73-76	5(1)	NA	NA	10.00	19.99	730809	1
Mercury	w	73-76	7(7)	NA	NA	0.50	0.50	760928	4
Zinc	w	73-76	7(3)	NA	NA	10.00	29.99	730803	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	760928	2	2.00	2.00	0.00	NA	858
Cadmium	w	760928	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	760928	2	10.00	10.00	0.00	0.0572	NA
Copper	w	760928	2	14.99	14.99	7.06	0.0116	NA
Lead	w	760928	2	10.99	10.99	11.31	0.2246	NA
Mercury	w	760928	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	760928	2	14.99	14.99	7.06	0.0020	NA

<u>River</u>	Coan River	<u>Station</u>	1ACOA001.01
<u>R. Mile</u>	001.01	<u>Agency</u>	VASWCB
<u>Location</u>	Buoy 8, Northumberland Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-76	4(4)	NA	NA	1.50	2.00	760928	2
Cadmium	w	73-76	5(5)	NA	NA	10.00	10.00	760928	3
Chromium	w	73-76	8(7)	0.00	0.500	10.00	10.00	760928	8
Copper	w	73-76	8(3)	0.00	0.500	10.00	39.99	740805	1
Lead	w	73-76	6(1)	NA	NA	10.49	19.99	760308	2
Mercury	w	73-76	8(8)	0.00	0.270	0.50	0.50	760928	4
Zinc	w	73-76	8(3)	0.00	0.500	10.00	29.99	730803	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	760928	2	2.00	2.00	0.00	NA	858
Cadmium	w	760928	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	760928	2	10.00	10.00	0.00	0.0572	NA
Copper	w	760928	2	14.99	14.99	7.06	0.0116	NA
Lead	w	760928	2	15.49	15.49	6.36	0.3164	NA
Mercury	w	760928	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	760928	2	14.99	14.99	7.06	0.0020	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Coan River	<u>Station</u>	LACOA000.00
<u>R. Mile</u>	000.00	<u>Agency</u>	VASWCB
<u>Location</u>	Buoy 6, mouth of Coan River, Northumberland Co., Va.		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Arsenic	w	73-76	4(4)	NA	NA	1.50	2.00	760928	2
Cadmium	w	73-76	5(5)	NA	NA	10.00	10.00	760928	3
Chromium	w	73-76	8(7)	0.00	0.500	10.00	10.00	760928	8
Copper	w	73-76	8(3)	0.00	0.500	14.99	69.99	740805	1
Lead	w	73-76	6(3)	NA	NA	6.50	19.99	730809	1
Mercury	w	73-76	8(8)	0.00	0.270	0.50	0.50	760928	4
Zinc	w	73-76	8(4)	0.00	0.500	10.00	39.99	760928	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Arsenic	w	760928	2	2.00	2.00	0.00	NA	858
Cadmium	w	760928	2	10.00	10.00	0.00	0.9861	NA
Chromium	w	760928	2	10.00	10.00	0.00	0.0572	NA
Copper	w	760928	2	19.99	19.99	14.14	0.0155	NA
Lead	w	760928	2	2.00	2.00	0.00	0.0409	NA
Mercury	w	760928	2	0.50	0.50	0.00	0.0072	NA
Zinc	w	760928	2	24.99	24.99	21.21	0.0034	NA

<u>River</u>	Potomac River	<u>Station</u>	XBF3080
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	1400 yds. SSW of Cornfield Harbor		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Mercury	f	77-77	1(0)	NA	NA	0.24	0.24	770610	1
Alpha BHC	f	76-77	3(3)	NA	NA	0.00	0.00	770610	3
Gamma BHC(Lindane)	f	76-77	3(3)	NA	NA	0.00	0.00	770610	3
Chlordane	f	76-77	3(0)	NA	NA	0.04	0.08	770610	1
Dieldrin	f	76-77	3(1)	NA	NA	0.01	0.02	770610	1
Endrin	f	76-77	3(3)	NA	NA	0.00	0.00	770610	3
Heptachlor Epoxide	f	76-77	3(3)	NA	NA	0.00	0.00	770610	3
PCB's	f	76-77	3(0)	NA	NA	0.11	0.51	770610	1
P,P'DDD	f	76-77	3(0)	NA	NA	0.01	0.05	770610	1
P,P'DDE	f	76-77	3(0)	NA	NA	0.02	0.07	770610	1
P,P'DDT	f	76-77	3(1)	NA	NA	0.01	0.01	770610	1
Toxaphene	f	76-77	3(3)	NA	NA	0.01	0.01	770610	3

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Mercury	f	770610	1	0.24	0.24	0.00	0.0111	NA
Alpha BHC	f	770610	3	0.00	0.00	0.00	NA	1
Gamma BHC(Lindane)	f	770610	3	0.00	0.00	0.00	NA	NA
Chlordane	f	770610	3	0.04	0.05	0.03	0.0743	6
Dieldrin	f	770610	3	0.01	0.01	0.01	NA	20
Endrin	f	770610	3	0.00	0.00	0.00	NA	NA
Heptachlor Epoxide	f	770610	3	0.00	0.00	0.00	0.0015	NA
PCB's	f	770610	3	0.11	0.23	0.24	NA	44
P,P'DDD	f	770610	3	0.01	0.02	0.02	NA	NA
P,P'DDE	f	770610	3	0.02	0.03	0.03	NA	NA
P,P'DDT	f	770610	3	0.01	0.01	0.00	NA	NA
Toxaphene	f	770610	3	0.01	0.01	0.00	NA	1

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Lake Conoy	<u>Station</u>	XBG4113
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Southern Cove		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(0)	NA	NA	0.10	0.10	740514	1
Chromium	w	74-74	1(1)	NA	NA	0.05	0.05	740514	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740514	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740514	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740514	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740514	1	0.10	0.10	0.00	0.0099	NA
Chromium	w	740514	1	0.05	0.05	0.00	0.0003	NA
Copper	w	740514	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740514	1	0.10	0.10	0.00	0.0020	NA
Mercury	w	740514	1	0.00	0.00	0.00	NA	NA

<u>River</u>	Lake Conoy	<u>Station</u>	XBG4515
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Eastern Cove		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(0)	NA	NA	0.10	0.10	740514	1
Chromium	w	74-74	1(1)	NA	NA	0.05	0.05	740514	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740514	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740514	1
Mercury	w	74-74	1(0)	NA	NA	0.00	0.00	740514	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740514	1	0.10	0.10	0.00	0.0099	NA
Chromium	w	740514	1	0.05	0.05	0.00	0.0003	NA
Copper	w	740514	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740514	1	0.10	0.10	0.00	0.0020	NA
Mercury	w	740514	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Lake Conoy	<u>Station</u> XBG4714
<u>R. Mile</u>		<u>Agency</u> MDOEP
<u>Location</u>	Northern Cove	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(0)	NA	NA	0.10	0.10	740514	1
Chromium	w	74-74	1(1)	NA	NA	0.05	0.05	740514	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740514	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740514	1
Mercury	w	74-74	1(0)	NA	NA	0.02	0.02	740514	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740514	1	0.10	0.10	0.00	0.0099	NA
Chromium	w	740514	1	0.05	0.05	0.00	0.0003	NA
Copper	w	740514	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740514	1	0.10	0.10	0.00	0.0020	NA
Mercury	w	740514	1	0.02	0.02	0.00	0.0003	NA

<u>River</u>	Lake Conoy	<u>Station</u> XBF4599
<u>R. Mile</u>		<u>Agency</u> MDOEP
<u>Location</u>	Upper end of Northwest Cove	

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Chromium	w	74-74	1(1)	NA	NA	0.05	0.05	740514	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740514	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740514	1
Mercury	w	74-74	1(0)	NA	NA	0.03	0.03	740514	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Chromium	w	740514	1	0.05	0.05	0.00	0.0003	NA
Copper	w	740514	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740514	1	0.10	0.10	0.00	0.0020	NA
Mercury	w	740514	1	0.03	0.03	0.00	0.0004	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Lake Conoy	<u>Station</u>	XBF4399
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	North of Treasure Island		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(0)	NA	NA	0.10	0.10	740514	1
Chromium	w	74-74	1(1)	NA	NA	0.05	0.05	740514	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740514	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740514	1
Mercury	w	74-74	1(0)	NA	NA	0.00	0.00	740514	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740514	1	0.10	0.10	0.00	0.0099	NA
Chromium	w	740514	1	0.05	0.05	0.00	0.0003	NA
Copper	w	740514	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740514	1	0.10	0.10	0.00	0.0020	NA
Mercury	w	740514	1	0.00	0.00	0.00	0.0001	NA

<u>River</u>	Lake Conoy	<u>Station</u>	XBG4111
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Channel to Potomac		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(0)	NA	NA	0.10	0.10	740514	1
Chromium	w	74-74	1(1)	NA	NA	0.05	0.05	740514	1
Copper	w	74-74	1(1)	NA	NA	0.10	0.10	740514	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740514	1
Mercury	w	74-74	1(0)	NA	NA	0.00	0.00	740514	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740514	1	0.10	0.10	0.00	0.0099	NA
Chromium	w	740514	1	0.05	0.05	0.00	0.0003	NA
Copper	w	740514	1	0.10	0.10	0.00	0.0001	NA
Lead	w	740514	1	0.10	0.10	0.00	0.0020	NA
Mercury	w	740514	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VII. LOWER POTOMAC ESTUARY

<u>River</u>	Potomac River	<u>Station</u>	XDA4238
<u>R. Mile</u>		<u>Agency</u>	MDOEP
<u>Location</u>	Buoy 27 SW of Smith Point		

TREND, PERIOD OF RECORD

Parameter	M	Period of Record	Nbr obs	Ktau Slope	Significance	Median	Maximum	Date of Maximum	# of MaxVals
Cadmium	w	74-74	1(1)	NA	NA	0.03	0.03	740625	1
Chromium	w	74-74	1(1)	NA	NA	0.10	0.10	740625	1
Copper	w	74-74	1(1)	NA	NA	0.03	0.03	740625	1
Lead	w	74-74	1(1)	NA	NA	0.10	0.10	740625	1
Mercury	w	74-74	1(1)	NA	NA	0.00	0.00	740625	1

STATUS, MOST RECENT 12 MONTHS OF RECORD

Parameter	M	End Date	Nbr obs	Median	Mean	Std. Dev.	Hazard Index	Cancer Risk
Cadmium	w	740625	1	0.03	0.03	0.00	0.0030	NA
Chromium	w	740625	1	0.10	0.10	0.00	0.0006	NA
Copper	w	740625	1	0.03	0.03	0.00	NA	NA
Lead	w	740625	1	0.10	0.10	0.00	0.0020	NA
Mercury	w	740625	1	0.00	0.00	0.00	NA	NA

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VIII. CASE STUDIES

Mercury Contamination in the South and South Fork Shenandoah Rivers

For many years Mercury contamination has been a problem facing the South River portion of the Shenandoah watershed. In 1977, the duPont deNemours company, Inc. reported the discovery of Mercury in the soil at the Waynesboro site and in the sediment of the South River. The plant used Mercury between 1927 and 1950 as part of its industrial process in the manufacture of synthetic fibers. During this period Mercury was discharged through the effluent to the river and to the soil around the plant. As a consequence, approximately 130 miles of tributaries to the Shenandoah were affected by Mercury contamination.

When Mercury enters water it quickly binds to sediment and organic material and then precipitates. Consequently the majority of the contaminant is found in the sediment. According to a two year study sponsored by duPont, of the total Mercury mass accounted for in the sediment, 2% (1800 lbs) exists in the river bed downstream of the plant. Forty percent of these 1800 lbs is confined to three pooled areas along the river: the dam at Dooms, the dam at Crimora, and a pool approximately 3000 ft downstream of duPont. The remaining 98% (97,200 lbs) is found in the floodplain. Much of the Mercury in the floodplain has stabilized and will probably never return to the river. Levels of contamination below the plant are not evenly distributed, but vary according to flow and sediment characteristics. At the duPont site, sediment samples from the side of the river adjacent to the plant show levels at approximately 32.6 ppm. Moving downstream, concentrations fluctuate irregularly with peak concentration between 8 and 11 miles downstream. The 5 mile stretch between Dooms and Crimora has the highest concentration at 42 ppm and is characterized by a low gradient, which induces deposition. Furthermore, the presence of livestock and crops contributes a relatively high organic loading which tends to bind the Mercury. The lowest 8 miles of the South River generally exhibit concentrations of less than 10 ppm.

Mercury is a pollutant that is bioaccumulated within an ecosystem. The concentration of Mercury in fish is therefore dependent on trophic position, size and age. A larger, older or predator fish is likely to exhibit higher concentrations of Mercury than a smaller, younger or forage species. Mercury concentrations in fish are found to be highest in the vicinity of the highest sediment Mercury concentrations. This is not surprising, since most of their food items would also have high Mercury concentrations. It is noted, however, that concentrations in fish remain relatively high some distance

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VIII. CASE STUDIES

downstream even though concentrations in sediments taper off. There are two reasons for this: 1) invertebrate drift and 2) methylation of inorganic Mercury. Drift is caused as the current flows over areas of high concentration and naturally picks up a number of invertebrates and transports them downstream. As they are consumed by foragers they pass on the contaminants to the higher trophic levels. Methylation is the mechanism that regulates the transformation of Mercury into the biological food chain. The rate of transformation depends upon the intensity of activity of microbes that are responsible for the transformation. The assimilation efficiency of Methylmercury from the gut of fish ranges from 70-90%, while only 10-15% of inorganic Mercury is absorbed. It is Methylmercury that comprises the bulk of Mercury in fish tissue. As the percentage of Methylmercury increases with respect to inorganic Mercury downstream, it is more readily absorbed and accounts for the persistence of high concentrations in fish downstream.

When Mercury was first discovered in the river system, a survey was initiated to determine the extent of contamination in fish. Results indicated levels exceeding the FDA maximum allowable concentrations of 0.5 ppm and consequently a ban on fish consumption was imposed on 130 miles of stream. The extent of the ban was reduced in 1982, primarily due to a new FDA guideline of 1.0 ppm. Since 1982, the Virginia Department of Health has had the following health advisory in effect regarding fish consumption:

"Fish containing Mercury may be dangerous to your health. Eat no more than one meal (one-half pound) per week of fish from these waters. Small children and pregnant women should not eat fish containing Mercury."

Recreational fishing is still permissible in the affected area. The best available data concerning long term exposure of fish to Mercury indicate that ambient concentrations above 0.23 ug/l may cause chronic effects in species such as the rainbow trout, bluegill, and fathead minnow. At this concentration total Mercury in the whole fish exceeds 1.0 mg/kg.

The predominant water column Mercury loadings in the South River and South Fork Shenandoah system come from background sources such as the South River and its tributaries upstream of duPont, and the North River and tributaries to the South Fork Shenandoah. Sediment is the second largest source, contributing approximately 13 lbs/yr. This is more than twice the amount contributed in the vicinity of duPont, which is approximately 5.6 lbs/yr. Mercury concentration levels generally decrease during periods of above average flow. This is evident through the corresponding decrease of Mercury levels in fish tissue. The

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VIII. CASE STUDIES

high flows dilute methyl and inorganic Mercury and consequently reduce the amount of Mercury passing over the gills of invertebrates and fish. This suggests that the decrease in Mercury levels in fish that were observed during the study period in 1980-1981 are related to the high flows that were experienced during those two years and not to a biological cleansing of the system. (Lawler, Matusky and Skelly, 1982)

Environmental consultants to duPont considered three main alternatives in assessing the feasibility of alleviating Mercury contamination in the rivers. These involved the removal of all Mercury bound sediments from the river, chemically fixing the Mercury in place, and a no-action alternative.

With regard to removing sediments from the South River, it was determined that such an effort would significantly reduce the body burden of Mercury in fish in that river but would achieve insignificant improvements in the body burden of fish in the South Fork Shenandoah. It is noted that the value of the commercial and recreational fishery in the South River is relatively low and its benefits are hard to quantify. Since benefits of sediment removal projects would be limited to the South River, with little benefit to the valuable commercial and recreational fishery of the South Fork, this alternative was not considered cost effective. The second alternative, which was to chemically fix the Mercury in place, was found to be environmentally unacceptable and was also rejected.

DuPont and its environmental consultants chose the no-action alternative as the most appropriate response in dealing with Mercury contamination in the South River. The main reasons for this decision were: (1) there would be no long term significant decrease of Mercury in the body burden of commercially and recreationally valuable fish species in the South Fork Shenandoah as the result of sediment removal. (2) there are no significant human health risks associated with the contamination on an area-wide basis. (This is based on the Virginia State Health Department's reduction of regulation from a ban to a warning.) (3) fishing levels are the same as they were before the ban was imposed.

Currently, duPont, under court order, continues to monitor the South River and South Fork Shenandoah for Mercury contamination. Future projections for the next 100 years for the South River indicate approximately a 75% decrease in sediment Mercury concentrations and a 30% decrease in Methylmercury concentrations in river water. For the South Fork Shenandoah, projections indicate a slightly less than 40% decrease in sediment Mercury concentrations and approximately a 13% reduction in Methylmercury concentrations in river water.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VIII. CASE STUDIES

Tributyltin

Although Tributyltin (TBT) is not a priority pollutant, it is a toxicant of significant importance in estuarine waters of the Potomac River basin. TBT is defined as a synthetic organic chemical composed of one tin atom with three butyl groups attached to it. For our purposes, TBT refers to a group of antifouling paints containing any of the nine Tributyltin compounds registered for use as antifoulants with the EPA. These TBT compounds include: Bis(tributyltin) adipate, Bis(tributyltin) dodecanyl succinate, Bis(tributyltin) oxide, Bis(tributyltin) sulfide, Tributyltin acetate, Tributyltin acrylate, Tributyltin fluoride, Tributyltin methacrylate, and Tributyltin resinate.

TBT compounds are used in place of copper in the manufacture of marine paints that inhibit the growth of fouling organisms on boat hulls. Each year marine biofouling costs boat operators billions of dollars. Commercial fleets, U.S. and foreign navies and recreational boaters pay high costs and drydock charges for scraping and repainting. Some years ago paints containing TBT compounds came on the market with the promise of saving some of that expense. Not only does TBT last longer than traditional copper based paints, but TBT is considerably more potent against fouling organisms. The U.S. Navy alone estimates potential savings of approximately 110 million dollars per year after full fleet conversion to TBT based paints.

Unfortunately the potency of TBT against fouling organisms has also demonstrated toxic effects against non-target and commercial species. In France researchers have linked oyster shell deformities and deaths to small concentrations of TBT in Arachon Bay, a body of water that is home to hundreds of pleasure boats. Many of these boats had TBT coatings. It should be noted that after restrictions were imposed on the use of TBT in Arachon Bay, oyster beds demonstrated significant recovery. In one local study, laboratory analysis indicates that concentrations of 100 ng/l were toxic to mussel larvae. TBT concentrations of 20 ng/l caused sublethal effects to the dog whelk. In 1985-86, TBT concentrations in Annapolis Harbor ranged between 68 and 464 ng/l during a six month study. At Piney Narrows, concentrations ranged between 34 and 250 ng/l during the same study. One note here: direct comparisons of environmental TBT concentrations with laboratory toxicity data cannot be made without certain precautions. Not all the TBT measured in the environment may be available to organisms at any particular time.

Data on human health effects are deficient and experts feel that a complete evaluation is necessary. Some health symptoms

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
VIII. CASE STUDIES

induced by TBT include: skin irritation, respiratory problems, and frequent colds and flus. Nausea and fatigue may also be diagnosed as caused by TBT. Humans are affected by TBT in two ways: (1) Direct contact by painting with TBT based paints, and (2) eating organisms from a TBT contaminated environment.

Sampling data from various areas in the Chesapeake indicate microlayer and water column levels of TBT that are of concern, particularly in Annapolis Harbor. TBT has only been detected twice on the Potomac during a one year period of single monthly samples. Concentrations ranged from 20 - 24 ng/l. These levels fall well below the levels that typically induce chronic effects on most mollusks, crustaceans, and fish.

Although there are few boats on the free flowing Potomac, there are many recreational and commercial vessels on the Potomac estuary. This is also where the greatest number of commercially valuable species are found. The highest concentrations of TBT typically occur in late spring and early fall. This is because the highest number of freshly painted vessels are launched in the spring and drydocked and scraped in the fall. Many of the scrapings may fall or be washed into the water, which accounts for the fall highs. The spring highs unfortunately coincide with the time that most aquatic species are attempting to spawn. Young and larvae are particularly susceptible to pollution and high mortalities may result from the increased TBT concentrations.

In view of increasing concern over the environmental impacts of TBT, both the Virginia and Maryland legislatures have passed laws restricting the use of paints containing TBT. Both states have banned the use of such paints on all vessels with a length less than or equal to 25 meters. Larger vessels may use paints that release the substance at a maximum rate of 5.0 ug/cm²/day. Only owners of commercial boatyards are allowed to purchase paints containing TBT. Aluminum-hulled boats are exempt from the law since copper based antifoulants cannot be used on them.

On the federal side, the EPA has suspended use of TBT paints by the navy until more information on the environmental effects of the substance can be evaluated. Furthermore, Congress has recently passed a law similar to the ones already on the books in Maryland and Virginia. The federal law, however, charges the EPA with producing a "water quality criteria document" for TBT. In addition, the EPA is required to prepare a study on the effectiveness of TBT control measures.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

APPENDIX A1

**Toxic Parameter Monitoring Stations, Stream Names, and
Locations**

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A1. Toxic Parameter Monitoring Stations, Stream Names, and Locations

Station	Stream	Location	Page No.
Potomac Highlands			
North Branch Potomac River			
550554	Stony River	U.S. Route 50 Highway Bridge, Grant Co., W.Va.	II-6
550891	Stony River	.75 miles below Mt. Storm Dam, Grant Co., W.Va.	II-6
550556	Elk Run	Elk Run at Route 90 near Henry	II-7
550555	Buffalo Creek	State Route 90 Highway Bridge, Grant Co., W.Va.	II-8
01595000	North Branch Potomac River	Steyer, Garrett Co., Md.	II-8
01595300	Abram Creek	Oakmont, Mineral Co., W.Va.	II-9
01595500	North Branch Potomac River	Kitzmilller, Garrett Co., Md.	II-10
NBP0689	North Branch Potomac River	Downstream of Md. Rt. 38 at Kitzmilller	II-11
TFR0000	Three Forks Run	Above confluence with N. Branch, 2 miles NE of Kitzmilller	II-11
DPQ0000	Deep Run	3.7 miles NE of Kitzmilller; via WV Rt's. 42 & 46.	II-11
HWL0000	Howell Run	Access from Kitzmilller-Rt.42 & 46, 3.7 mls.NE Kitzmilller	II-12
EKL0000	Elklick Run	Elklick Run just above its mouth	II-12
NBP0597	North Branch Potomac River	USGS Gage at Bridge at Barnum	II-12
01595800	North Branch Potomac River	Lat. 39 26 44 Long. 79 06 39 at Barnum	II-13
NBP0534	North Branch Potomac River	At Bloomington, upstream from Savage River	II-13
SAV0037	Savage River	Gaging station 0.7 mile below Savage R. Dam USGS-01597500	II-14
AAR0000	Aaron Run	1.2 MNW of Bloomington along Savage River	II-14
SAV0000	Savage River	MD Rt. 135	II-14
01597500	Savage River	Below Savage River Dam near Bloomington, Garrett Co., Md.	II-15
GE00009	Georges Creek	1 mile north of Westernport	II-15
01599000	Georges Creek	Franklin, Allegany Co., Md.	II-16
NBP0514	North Branch Potomac River	North Branch at Piedmont	II-16
NBP0461	North Branch Potomac River	Bridge on Rt. 220 near Keyser	II-17
NWC0000	New Creek	Just above confluence with North Br. access from Keyser WV	II-17
NBP0326	North Branch Potomac River	Md. RR Bridge at Pinto	II-17
550467	North Branch Potomac River	Route 9 Bridge at Pinto, Mineral Co., Md.	II-18
01600000	North Branch Potomac River	Pinto, Md.	II-18
NBP0217	North Branch Potomac River	Ridgley Bridge	II-19
01601500	Wills Creek	Cumberland, Allegany Co., Md.	II-20
WIL0013	Wills Creek	Gaging Station - Confl/Braddock Run	II-20
NBP0196	North Branch Potomac River	North Branch at Wiley Ford Bridge	II-21
01603000	North Branch Potomac River	Near Cumberland, Allegany Co., Md.	II-21
NBP0103	North Branch Potomac River	W. of Moores Hollow Rd. & Rt. 51	II-22
550806	Patterson Creek	Route 28 Bridge in Ft. Ashby, Mineral Co., W.Va.	II-23
NBP0085	North Branch Potomac River	At Spring Gap	II-24
NBP0023	North Branch Potomac River	Toll bridge at Oldtown	II-24
NBP0004	North Branch Potomac River	0.4 mile above confluence, access on WV side.	II-24
South Branch Potomac River			
01606000	North Fork S. Branch Potomac R.	Cabins, Grant Co., W.Va.	II-25
550470	North Fork S. Branch Potomac R.	U.S. 33 Highway Bridge at Judy Gap, Pendleton Co., W.Va.	II-26
550469	South Branch Potomac River	U.S. Route 33 Highway Bridge, Pendleton Co., W.Va.	II-26

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A1. Toxic Parameter Monitoring Stations, Stream Names, and Locations

Station	Stream	Location	Page No.
South Branch Potomac River (cont'd)			
550843	South Branch Potomac River	U.S. Rt. 220 Highway Bridge, Hardy Co., W.Va.	II-27
550468	South Branch Potomac River	County Route 3 Highway Bridge, Hampshire Co., W.Va.	II-29
SOU0004	South Branch Potomac River	0.4 miles from mouth of Stickley Road	II-30
TOW0030	Town Creek	Near bridge on Oldtown Road	II-31
TOW0013	Town Creek	Town Cr. where X'd by MD 51 near Cardinal Club in Town Cr.	II-32
POT2822	Potomac River	One mile downstream of Town Creek	II-33
550805	Little Cacapon River	Route 2 Highway Bridge, Hampshire Co., W.Va.	II-33
POT2776	Potomac River	0.3 mi. u/s confl. w/Purslane Run, via Paw Paw, WV	II-34
POT2766	Potomac River	Bridge Rt. 51 near Paw Paw, WV	II-34
POT2753	Potomac River	RR Bridge off of MD 51, 0.5 mile North of Paw Paw	II-34
550461	Potomac River	Potomac River at Paw Paw, Morgan Co., W.Va.	II-35
550804	Cacapon River	County Route 7 Highway Bridge, Morgan Co., W.Va.	II-36
CAP0005	Cacapon River	W.VA Route 9 Bridge at Great Cacapon	II-36
POT2386	Potomac River	Below bridge on US Rt. 522 in Hancock	II-37
01613000	Potomac River	Near Rt. 522 Br., Hancock, Md.	II-38
TOC0001	Tonoloway Creek	Near mouth Rt. 144 X-ing.	II-38
1ASLP034.20	Sleepy Creek	Route 697 Bridge, Frederick Co., Va.	II-39
550466	Sleepy Creek	State Highway 9 Bridge, Morgan Co., W.Va.	II-39
LIC0004	Licking Creek	U. S. 40 Bridge	II-40
1ABAR041.86	Back Creek	Route 522 Bridge, Frederick Co., Va.	II-40
1ABAR032.10	Back Creek	Route 740 Bridge, Frederick Co., Va.	II-41
550465	Back Creek	State Route 45 Bridge, Berkeley Co., W.Va.	II-42
550464	Back Creek	State Route 9 Highway Bridge, Berkeley Co., W.Va.	II-42
Upper Great Valley			
WQN0501	Conococheague Creek	1.0 mile West of Worleytown, Franklin Co., Pa.	III-6
01614175	Conococheague Creek	Worleytown, Franklin Co., Pa.	III-7
CON0210	Conococheague Creek	MD Rt. 58 Bridge	III-7
CON0183	Conococheague Creek	MD. Rt. 494 Bridge	III-7
01614500	Conococheague Creek	Fairview, Washington Co., Md.	III-8
CON0157	Conococheague Creek	Broadfording Road Bridge	III-8
CON0089	Conococheague Creek	U. S. 40 Bridge	III-8
CON0051	Conococheague Creek	Kemps Mill Road Bridge	III-9
UWR0000	Unnamed Tributary	0.6 mile N. of Kemps on Kemps Mill Rd.	III-9
CON0005	Conococheague Creek	Bridge on Md. Rt. 68	III-10
02	Stribling Run	Route 621 Bridge, Frederick Co., Va.	III-11
03	Opequon Creek	Route 620 Bridge, Frederick Co., Va.	III-11
01	Opequon Creek	Above Lake at Brtnvl, Frederick Co., Va.	III-11
1AOP047.44	Opequon Creek	Route 11 Bridge S. of Winchester, Frederick Co., Va.	III-12
20	Hoge Run	Above Opequon Creek, Frederick Co., Va.	III-12
1AHOC007.96	Hogue Creek	Route 50 Bridge, Frederick Co., Va.	III-13
1AHOC006.23	Hogue Creek	Route 679 Bridge, Frederick Co., Va.	III-13
1AHOC003.67	Hogue Creek	Route 522 Bridge, Frederick Co., Va.	III-14
25	Pond Tributary Wrights Run	Pond on Trib. to Wrights Run, Frederick Co., Va.	III-14
1AOP040.86	Opequon Creek	Route 50 and 17 Bridge, Frederick Co., Va.	III-15

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A1. Toxic Parameter Monitoring Stations, Stream Names, and Locations

Station	Stream	Location	Page No.
Upper Great Valley (cont'd)			
16	Buffalo Lick Run	Route 723 Bridge, Frederick Co., Va.	III-15
15	Opequon Creek	Route 655 Ford, Frederick Co., Va.	III-16
13	Opequon Creek	Above Abrams Creek, Frederick Co., Va.	III-16
05	Abrams Creek	Abrams Creek at Route 11, Frederick Co., Va.	III-16
1AABR007.14	Abrams Creek	Route 11 Bridge at Winchester, Frederick Co., Va.	III-17
06	Abrams Creek	Above Sewage Treatment Plant, Frederick Co., Va.	III-17
07	Abrams Creek	Below Sewage Treatment Plant, Frederick Co., Va.	III-18
23	Abrams Creek	Below O'Sullivan Rubr, Frederick Co., Va.	III-18
04	Abrams Creek	Below Lake at Route 50, Fredrick Co., Va.	III-18
1AABR005.80	Abrams Creek	Route 17-50-522 Bridge at Winchester, Va.	III-19
1AABR002.73	Abrams Creek	Route 656/659 Bridge, Frederick Co., Va.	III-19
1AABR000.76	Abrams Creek	Route 7 Bridge at Winchester, Frederick Co., Va.	III-20
1AOPe032.52	Opequon Creek	Route 7 Bridge at Gaging Station, Frederick Co., Va.	III-20
01615000	Opequon Creek	State Hwy 7 near Berryville, Frederick Co., Va.	III-21
1ARED004.45	Redbud Run	Route 11 Bridge, Frederick Co., Va.	III-21
1ARED001.61	Redbud Run	Route 656 Bridge, Winchester, Va.	III-22
1ARED000.46	Redbud Run	Route 659 Bridge, Winchester, Va.	III-22
08	Redbud Run	Off Route 661, Frederick Co., Va.	III-23
09	Lick Run	Route 664 Bridge, Frederick Co., Va.	III-23
12	Opequon Creek	Opequon Creek at Burnt Factory, Frederick Co., Va.	III-23
11	Opequon Creek	Wadeville, Frederick Co., Va.	III-24
1ACLBO00.26	Clearbrook Run	Route 749 Bridge, Frederick Co., Va.	III-24
1AOPe023.56	Opequon Creek	Route 667 Bridge, Frederick Co., Va.	III-25
10	Opequon Creek	Below Turkey Run, Frederick Co., Va.	III-25
24	Opequon Creek	Opequon Creek at Route 660, Frederick Co., Va.	III-26
26	High View Manor Pond	High View Manor Pond, Frederick Co., Va.	III-26
550463	Opequon Creek	State Route 51 Highway Bridge, Jefferson Co., W.Va.	III-27
550764	Opequon Creek	At the Railroad Trestle at Blairton, Berkeley Co., W.Va.	III-28
550462	Opequon Creek	County Route 12 Highway Bridge, Berkeley Co., W.Va.	III-28
550766	Tuscarora Creek	County Route 36 Highway Bridge, Berkeley Co., W.Va.	III-29
MSH0016	Marsh Run	At USGS Gage, 220 Ft. above bridge on Spreacher Rd.	III-29
POT1830	Potomac River	Below Bridge on MD. Route 34 (Shepherdstown, WV)	III-30
01618000	Potomac River	Shepherdstown, Jefferson Co., WV.	III-31
POT1798	Potomac River	0.5 mile above mouth of Antietam Cralong C&O Canal Rd.	III-31
WQN0504	East Branch Antietam Creek	T-363 bridge, Franklin Co., Pa.	III-32
01618950	East Branch Antietam Creek	Near Waynesboro, Franklin Co., Pa.	III-33
ANT0366	Antietam Creek	Antietam Cr. gaging station W. Rt. 60 - Roc. For.	III-33
ANT0354	Antietam Creek	MD Rt. 60 Bridge	III-34
GR00033	Grove Creek	Penna. Ave. X-ing	III-35
GR00025	Grove Creek	Just d/s Rt. 77 & L. of STP entrance	III-35
GR00023	Grove Creek	60 ft. d/s STP discharge	III-35
GR00022	Grove Creek	160' d/s STP discharge, just d/s beagle dog house.	III-36
GR00021	Grove Creek	260' d/s STP discharge, just d/s STP fence corner.	III-36
GR00020	Grove Creek	360' d/s STP discharge, 20' d/s lagoon pipe.	III-36
GR00019	Grove Creek	Beards Church Road X-ing.	III-37
GR00015	Grove Creek	2nd X-ing by Ungar Rd. heading east.	III-37
GR00001	Grove Creek	MD. Rt. 77 X-ing.	III-37

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Table A1. Toxic Parameter Monitoring Stations, Stream Names, and Locations

Station	Stream	Location	Page No.
Upper Great Valley (cont'd)			
MRS0033	Marsh Run	Above confluence with West Branch	III-38
WMR0011	West Branch	Bridge on Paradise Church Road	III-38
WMR0004	West Branch	Bridge on Marsh Pike, No. of Paramount.	III-38
WMR0000	West Branch	0.4 mile below Marsh Pike.	III-39
MRS0007	Marsh Run	Bridge on Old Forge Rd.	III-39
MRS0000	Marsh Run	Mouth of Marsh Run	III-39
ANT0254	Antietam Creek	U.S. 40 Bridge	III-40
ANT0241	Antietam Creek	Behind pumping station intersec.of Mt.Aetna Rd. & U.S.40	III-40
ANT0229	Antietam Creek	Marbern Rd. Bridge West of Funkstown	III-40
ANT0203	Antietam Creek	At Bridge on Poffenberger Road	III-41
01619000	Antietam Creek	1.9 miles N.E. of Lettersburg, Washington Co., Md.	III-42
01619500	Antietam Creek	1 mile S.E. of Sharpsburg, Washington Co., Md.	III-42
ANT0002	Antietam Creek	Bridge on Harper's Rd. at Antietam	III-43
POT1725	Potomac River	S. of Pleasantville along Harpers Ferry Rd.	III-43

Shenandoah River Basin

North Fork Shenandoah River

1BNFS093.53	North Fork Shenandoah River	Route 259 Bridge, Rockingham Co., Va.	IV-6
1BNFS090.16	North Fork Shenandoah River	Route 617 Bridge above Broadway, Rockingham Co., Va.	IV-7
1BNFS088.38	North Fork Shenandoah River	Up from Rockingham Poultry Discharge, Rockingham Co., Va.	IV-7
1BNFS088.19	North Fork Shenandoah River	Rockingham Poultry Discharge, Rockingham Co., Va.	IV-8
1BNFS088.00	North Fork Shenandoah River	Up from Shen-Valley Meat Packers, Rockingham Co., Va.	IV-8
1BNFS087.81	North Fork Shenandoah River	Shen-Valley Meat Packers Effluent, Rockingham Co., Va.	IV-9
1BNFS087.02	North Fork Shenandoah River	Route 42 Bridge at Timberville, Rockingham Co., Va.	IV-9
1BNFS081.42	North Fork Shenandoah River	Route 617/953 Bridge W. of New Market, Va.	IV-10
1BSMT018.40	Smith Creek	Route 798 Bridge, Rockingham Co., Va.	IV-11
1BSMT010.90	Smith Creek	Route 211 Bridge, Shenandoah Co., Va.	IV-11
1BNFS076.56	North Fork Shenandoah River	Route 767 Bridge, Shenandoah Co., Va.	IV-12
1BSTY006.81	Stony Creek	Route 675 Bridge, Shenandoah Co., Va.	IV-12
1BSTY001.22	Stony Creek	Route 11 Bridge, Shenandoah Co., Va.	IV-13
1BNFS072.78	North Fork Shenandoah River	Route 11 Bridge, Shenandoah Co., Va.	IV-14
1BNFS062.18	North Fork Shenandoah River	Route 698 Bridge S. of Edingburg, Shenandoah Co., Va.	IV-14
1BNFS059.59	North Fork Shenandoah River	Route 675 Bridge E. of Edingburg, Shenandoah Co., Va.	IV-15
1BNFS043.06	North Fork Shenandoah River	Route 758 Bridge near Woodstock, Shenandoah Co., Va.	IV-15
1BNFS037.89	North Fork Shenandoah River	Route 633 Bridge near Woodstock, Shenandoah Co., Va.	IV-16
1BNFS012.98	North Fork Shenandoah River	Route 648 Bridge in Strasburg, Shenandoah Co., Va.	IV-16
1BNFS010.34	North Fork Shenandoah River	Route 55 Bridge in Strasburg, Shenandoah Co., Va.	IV-17
01634000	North Fork Shenandoah River	Near Strasburg, Warren Co., Va.	IV-18
1BCDR013.29	Cedar Creek	Route 628 Bridge, Shenandoah Co., Va.	IV-19
1BCDR002.84	Cedar Creek	Route 11 Bridge, Shenandoah Co., Va.	IV-21
1BPSG001.36	Passage Creek	Route 55 Bridge, Warren Co., Va.	IV-22
1BNFS000.69	North Fork Shenandoah River	Route 340/522 Bridge at Front Royal, Warren Co., VA.	IV-23
1BMDD001.65	Muddy Creek	Route 734 Bridge, Rockingham Co., Va.	IV-25
1BNTH020.40	North River	Route 42 Bridge at Bridgewater, Rockingham Co., Va.	IV-25

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A1. Toxic Parameter Monitoring Stations, Stream Names, and Locations

Station	Stream	Location	Page No.
Shenandoah River Basin			
North Fork Shenandoah River			
01621315	North River	Hwy 42 at Bridgewater, Rockingham Co., Va.	IV-26
1BBLK006.04	Blacks Run	Route 726 Bridge S. of Harrisonburg, Rockingham Co., Va.	IV-26
1BBLK003.86	Blacks Run	Route 679 Bridge, Rockingham Co., Va.	IV-27
1BBLK002.10	Blacks Run	Route 988 Bridge, Rockingham Co., Va.	IV-27
1BBLK000.57	Blacks Run	Route 704 Bridge, Rockingham Co., Va.	IV-28
1BCKSO07.12	Cooks Creek	Route 701 Bridge at Dayton, Rockingham Co., Va.	IV-28
1BCKSO05.10	Cooks Creek	Route 704 Bridge, Rockingham Co., Va.	IV-29
1BCKSO03.10	Cooks Creek	Route 11 Bridge, Rockingham Co., Va. 32VASWCB	IV-29
01621360	North River	Hwy 11 near Mt. Crawford, Rockingham Co., Va.	IV-30
1BCKSO01.03	Cooks Creek	Route 867 Bridge at Mt. Crawford, Rockingham Co., Va.	IV-30
1BNTH016.24	North River	Route 11 Bridge S. of Mt. Crawford, Rockingham Co., Va.	IV-31
1BNTH000.18	North River	Route 629/865 Bridge at Port Republic, Rockingham Co., Va.	IV-31
01625500	North River	Hwy 865 Bridge at Port Republic, Rockingham Co., Va.	IV-32
1BMDL034.28	Middle River	Route 626 Bridge, Augusta Co., Va.	IV-32
1BMDL029.46	Middle River	Route 11 Bridge N.E. of Staunton, Augusta Co., Va.	IV-33
1BPOG000.11	Poague Run	Below Holiday Inn Discharge, Augusta Co., Va.	IV-33
1BLEW007.08	Lewis Creek	Staunton, Augusta Co., Va.	IV-34
1BLEW006.93	Lewis Creek	Staunton, Augusta Co., Va.	IV-34
1BLEW006.76	Lewis Creek	Above Farrier Dauling Co. Augusta Co., Va.	IV-35
1BLEW006.64	Lewis Creek	Below Farrier Dauling Co., Staunton, Augusta Co., Va.	IV-35
1BLEW005.68	Lewis Creek	Above Sewage Disposal Discharge, Augusta Co., Va.	IV-36
1BLEW005.40	Lewis Creek	Below Sewage Disposal Discharge, Augusta Co., Va.	IV-36
1BLEW002.80	Lewis Creek	Route 275 Bridge, Augusta Co., Va.	IV-37
1BLEW000.61	Lewis Creek	Route 612 Bridge, Augusta Co., Va.	IV-38
1BMDL022.09	Middle River	Route 780 Bridge E. of Verona, Augusta Co., Va.	IV-38
1BCST016.20	Christians Creek	Route 635 S. of Staunton, Augusta Co., Va.	IV-39
1BCST006.43	Christians Creek	Route 254 Bridge, Augusta Co., Va.	IV-39
1BSTH038.50	South River	Route 608 Bridge, Augusta Co., Va.	IV-40
1BSTH033.50	South River	Route 634 Bridge, Augusta Co., Va.	IV-40
1BSTH030.80	South River	Route 632 Bridge, Augusta Co., Va.	IV-41
1BSTH028.51	South River	Route 653 Bridge S. of Waynesboro, Augusta Co., Va.	IV-41
1BSTH027.10	South River	Route 664 Bridge, Waynesboro, Va.	IV-42
1BSTH023.70	South River	Route 250 Bypass in Waynesboro, Augusta Co., Va.	IV-43
1BSTH018.50	South River	Route 611 Bridge near Dooms, Augusta Co., Va.	IV-43
1BSTH014.49	South River	Route 612 Bridge at Crimora, Augusta Co., Va.	IV-44
1BSTH007.80	South River	Route 778 at Harrisonburg, Augusta Co., Va.	IV-45
1BSTH000.19	South River	Route 629 Bridge at Port Republic, Rockingham Co., Va.	IV-46
01628250	South Fork Shenandoah River	Hwy 659 Bridge at Lynwood, Rockingham Co., Va.	IV-46
1BSSF100.07	South Fork Shenandoah	Route 659 Bridge near Lynwood, Rockingham Co., Va.	IV-47
1BSSF092.69	South Fork Shenandoah	Route 649 Bridge, Rockingham Co., Va.	IV-47
1BSSF085.08	South Fork Shenandoah	Route 33 Bridge, Rockingham Co., Va.	IV-48
1BSSF078.24	South Fork Shenandoah	Route 602 Bridge, Rockingham Co., Va.	IV-48

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A1. Toxic Parameter Monitoring Stations, Stream Names, and Locations

Station	Stream	Location	Page No.
Shenandoah River Basin (cont'd.)			
North Fork Shenandoah River (cont'd.)			
1BSSF060.57	South Fork Shenandoah	Route 340 Bridge, Page Co., Va.	IV-49
1BSSF054.20	South Fork Shenandoah	Route 211 Bridge E. of New Market, Page Co., Va.	IV-49
1BHKS006.23	Hawksbill Creek	Route 675 Bridge in Luray, Page Co., Va.	IV-50
1BHKS006.04	Hawksbill Creek	Immediately Below Town of Luray STP, Page Co., Va.	IV-51
1BHKS005.85	Hawksbill Creek	Town of Luray STP, Page Co., Va.	IV-51
1BHKS000.96	Hawksbill Creek	Route 648 Bridge below Luray, Page Co., Va.	IV-52
1BSSF046.67	South Fork Shenandoah River	Route 675 Bridge W. of Luray, Page Co., Va.	IV-53
1BSSF004.23	South Fork Shenandoah River	1 Mile Upstream of Route 619 Bridge, Warren Co., Va.	IV-53
1BSSF003.56	South Fork Shenandoah River	Route 619 Bridge at Gaging Station, Warren Co., Va.	IV-54
1BSSF000.58	South Fork Shenandoah River	Route 340/522 Bridge at Front Royal, Warren Co., Va.	IV-55
01631000	South Fork Shenandoah River	Front Royal, Warren Co., Va.	IV-57
1BSHN054.22	Shenandoah River	Opposite Front Royal Country Club, Warren Co., Va.	IV-57
1BHYP002.60	Happy Creek	Route 55 Bridge at Front Royal, Warren Co., Va.	IV-58
1BHYP000.10	Happy Creek	Riverton Junction, Warren Co., Va.	IV-58
1BSTV002.92	Stephens Run	Route 640 Bridge below Stephens City, Fredrick Co., Va.	IV-59
1BSHN048.00	Shenandoah River	Route 624 Bridge, Warren Co., Va.	IV-59
1BSHN038.27	Shenandoah River	Route 50 Bridge, Clarke Co., Va.	IV-60
01636290	Shenandoah River	Hwy 50 Bridge 5 miles S.E. of Millwood, Clarke Co., Va.	IV-60
1BLMN004.84	Long Marsh Run	Route 612 Bridge N.E. of Berryville, Clarke Co., Va.	IV-61
1BDGR004.02	Dog Run	Upstream of Town of Berryville STP, Clarke Co., Va.	IV-62
1BDGR003.91	Dog Run	Town of Berryville STP, Clarke Co., Va.	IV-62
1BDGR000.47	Dog Run	Route 608 Bridge, Clarke Co., Va.	IV-63
1BDGR000.23	Dog Run	Route 621 Bridge near Berryville, Clarke Co., Va.	IV-63
1BSHN022.63	Shenandoah River	Route 7 Bridge, Clarke Co., Va.	IV-64
550472	Shenandoah River	County Route 25/7 near Meyerstown, Jefferson Co., W.Va.	IV-65
01636500	Shenandoah River	Millville, Jefferson Co., W.Va.	IV-66
550471	Shenandoah River	U.S. Route 340 Highway Bridge, Jefferson Co., W.Va.	IV-67
SHN0002	Shenandoah River	Along river on Harpers Ferry side 5.0 miles below gage.	IV-67
Piedmont			
1APOT170.40	Potomac River	Route 340 Bridge, Loudoun Co., Va.	V-6
POT1707	Potomac River	U.S. 340 Bridge	V-6
1ADUT000.62	Dutchman Creek	Route 674 Bridge, Loudoun Co., Va.	V-7
POT1661	Potomac River	MD 17 Bridge	V-8
POT1635	Potomac River	From bank above Little Catoctin Creek	V-8
CAC0031	Catoctin Creek	Mouth at Bridge on Rt. 464	V-9
1ANOC004.38	North Fork Catoctin Creek	Route 287 Bridge, Loudoun Co., Va.	V-9
1ASOC012.38	South Fork Catoctin Creek	Route 690 Bridge, Loudoun Co., Va.	V-10
1ASOC011.82	South Fork Catoctin Creek	Route 611 Bridge, Loudoun Co., Va.	V-10
1ASOC001.66	South Fork Catoctin Creek	Route 698 Bridge near Waterford, Loudoun Co., Va.	V-11

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Table A1. Toxic Parameter Monitoring Stations, Stream Names, and Locations

Station	Stream	Location	Page No.
Piedmont (cont'd)			
IACAX000.19	Catoctin Creek	Route 672 Bridge, Loudoun Co., Va.	V-12
POT1595	Potomac River	E. end of Br., U.S. Rt. 15 (Point of Rocks, MD)	V-12
01638500	Potomac River	Point of Rocks, Frederick Co., Md.	V-13
TUC0008	Tuscarora Creek	0.6 mile SW Licksville, Farthest downstream bridge.	V-14
POT1532	Potomac River	Above Monocacy Mouth, 2.0 mile below sewer discharge	V-14
Monocacy River			
WQN0503	Rock Creek	U.S. 140 bridge near Gettysburg, Adams Co., Pa.	V-15
01638890	Rock Creek	Near Gettysburg, Adams Co., Pa.	V-16
01639000	Monocacy River	Bridgeport, Frederick Co., Md.	V-16
MON0528	Monocacy River	Bridge on MD Rt. 7, Bridgeport	V-17
PIN0092	Piney Creek	Fringer Rd. Bridge, NE Taneytown	V-18
PIN0062	Piney Creek	MD 97 Bridge, NW Taneytown	V-18
MON0498	Monocacy River	Bridge on Keysville Rd.	V-19
MTM0002	Middle Creek	1/4 mile upstream from confluence with Toms Creek	V-19
TOM0061	Toms Creek	Bridge on Creamery Road	V-19
FLA0019	Flat Run	Bridge on US Route 15	V-20
TOM0038	Toms Creek	Fourpoints Bridge on Keysville Road	V-20
TOM0003	Toms Creek	Bridge on Sixes Road	V-20
MON0468	Monocacy River	Six Bridge on Sixes Road	V-21
UKM0017	Unnamed Tributary	Unnamed Farm Rd.off Sullivan Rd.0.1 mi.W MD 27 intersec.	V-21
UKM0015	Unnamed Tributary	Unnamed farm road 0.3 mi.NE intersec. MD 27 & Sullivan Rd.	V-22
BEE0015	Bear Branch	Below John Owings Rd. above all landfill drainage.	V-22
BEE0014	Bear Branch	Below lawful seepages & drains in 1st raingage No. of Rd.	V-23
URE0003	Unnamed Tributary	Above fill area, John Owings Road, above undergrnd pipe.	V-23
URE0001	Unnamed Tributary	Outfall from lower pond.	V-23
BPC0213	Big Pipe Creek	Saw Mill Rd. Bridge, 1 mile S.E. of Union Mills	V-24
BPC0177	Big Pipe Creek	Arters Mill Road, 2 miles S.W. Silver Run	V-24
BPC0120	Big Pipe Creek	Rt. 32 Bridge, S.E. Taneytown	V-25
BPC0035	Big Pipe Creek	Big Pipe Bridge on Briggs Ford Rd.	V-25
LPC0199	Little Pipe Creek	Bridge on Rt. 622	V-26
LPC0193	Little Pipe Creek	Church Rd. Bridge below Copps Bridge.	V-27
DIC0020	Dickenson Run	One mile SE New Windsor on Wakefield Valley Rd.	V-27
LPC0144	Little Pipe Creek	Bridge on MD 75	V-28
HUN0116	Hunting Creek	Park ent. Rd. X-ing off Catoctin Hollow Rd.	V-28
CUN0001	Cunningham Falls	Park Rd. X-ing off Catoctin Hollow Road	V-29
CUN0021	Cunningham Falls	1st x-ing E. of Rt. 77	V-29
HUN0112	Hunting Creek	D/S dam between dam and blockhouse	V-30
HUN0097	Hunting Creek	Rd. X-ing at Camp Peniel	V-30
01641000	Hunting Creek	Jimtown, Frederick Co., Md.	V-31
MON0299	Monocacy River	Devilbis Bridge on Devilbis Bridge Road	V-32
MON0269	Monocacy River	Bridge on Biggs Ford Road	V-33
01641810	Monocacy River	Near Walkersville, Frederick Co., Md.	V-34
CAR0053	Carroll Creek	Rock Springs Rd. Bridge	V-34

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Table A1. Toxic Parameter Monitoring Stations, Stream Names, and Locations

Station	Stream	Location	Page No.
Monocacy River (Cont'd.)			
CAR0022	Carroll Creek	South Market Street Bridge	V-35
CAR0019	Carroll Creek	Below East Street Bridge	V-35
CAR0017	Carroll Creek	E. Patrick Street Bridge	V-36
01642500	Linganore Creek	Near Frederick, Frederick Co., Md.	V-36
MON0155	Monocacy River	Bridge on Reels Mill Road	V-37
01643020	Monocacy River	Reichs Ford Bridge near Frederick, Frederick Co., Md.	V-38
MON0138	Monocacy River	Bridge on MD Rt. 355	V-39
01643500	Bennett Creek	Park Mills, Frederick Co., Md.	V-40
MON0020	Monocacy River	Bridge on Md. Rt. 28	V-41
POT1471	Potomac River	Eastern Terminus of White's Ferry	V-42
1ALIM001.16	Limestone Branch	Route 15 Bridge, Loudoun Co., Va.	V-43
1ATUS003.19	Tuscarora Creek	Route 643 Bridge, Loudoun Co., Va.	V-43
1ATUS000.37	Tuscarora Creek	Route 653 Bridge, Loudoun Co., Va.	V-44
1ANOG005.69	North Fork Goose Creek	Route 722 Bridge, Loudoun Co., Va.	V-45
1AG00044.36	Goose Creek	Route 17 Bridge, Fauquier Co., Va.	V-46
1AG00030.75	Goose Creek	Route 611 Bridge, Fauquier Co., Va.	V-46
1AG00022.44	Goose Creek	Route 734 Bridge, Loudoun Co., Va.	V-47
1AG00014.44	Goose Creek	Route 15 Bridge, Loudoun Co., Va.	V-48
1AG00011.23	Goose Creek	Route 621 Bridge, Loudoun Co., Va.	V-49
1AG00002.38	Goose Creek	Route 7 Bridge, Loudoun Co., Va.	V-50
1ANOF002.14	North Fork Broad Run	Route 29/211 Bridge, Prince William Co., Va.	V-52
1ABRU006.65	Broad Run	Southern RR Bridge off Route 28, Prince William Co., Va.	V-52
1ABRB002.15	Broad Run	Route 7 Bridge, Loudoun Co., Va.	V-53
1ASUG008.46	Sugarland Run	Route 606 Bridge, Fairfax Co., Va.	V-54
1ASUG004.42	Sugarland Creek	Route 7 Bridge	V-55
1AHOR003.87	Horsepen Run	Dulles Airport Access Road, Loudoun Co., Va.	V-56
1AHOR002.28	Horsepen Run	Route 775 Bridge, Loudoun Co., Va.	V-57
FCHA.pot	Potomac River	FCWA intake, Lowes Island, VA side	V-57
UHM0001	Unnamed Tributary	Mouth of 1st. trib. to URG from W. U/S Schaeffer Rd	V-58
UHM0000	Unnamed Tributary	Mouth of 1st. trib. to URG from W. U/S Schaeffer Rd.	V-58
URG0017	Unnamed Tributary	Just above first trib. above Schaeffer Road.	V-59
UDJ0000	Unnamed Tributary	Just above first trib. Schaeffer Rd. (settling basin)	V-59
UHL0000	Unnamed Tributary	Mouth 1st trib. entering URG from the E. above Schaeffer Rd	V-60
URG0015	Unnamed Tributary	0.1 mi. D/S Schaeffer Rd. 1.4 mi. W./Rt.118 Brownstown	V-60
UHK0002	Unnamed Tributary	Schaeffer Rd. X-ing, 1st. drainage W.of trib.URG	V-61
UHK0001	Unnamed Tributary	Schaeffer Rd. X-ing, first drainage W. of Trib. URG	V-61
UHK0000	Unnamed Tributary	Mouth 1st trib. entering URG from NW D/S Schaeffer Rd.	V-62
SENO056	Seneca Creek	Rt. 107 X-ing at Dawsonville	V-62
POT1342	Potomac River	End of Violets Lock Road	V-63
POTOMAC.LAB	Potomac River	WSSC WTP nr. Watkins Island (Md side)	V-64
WAD.gf	Potomac River	Water supply intake at Great Falls, MD	V-64
1ADIF004.02	Difficult Run	Route 7 Bridge, Fairfax Co., Va.	V-65
1ADIF000.86	Difficult Run	Route 193 Bridge, Fairfax Co., Va.	V-66
01646000	Difficult Run	Near Great Falls, Fairfax Co., Va.	V-67
01646500	Potomac River	Nr. Washington D.C., L. Falls Pump Sta., Montgomery Cty, MD	V-67

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A1. Toxic Parameter Monitoring Stations, Stream Names, and Locations

Station	Stream	Location	Page No.
<u>Urban Estuary</u>			
TC006	Potomac River	C & O Canal Fletcher's Boathouse, D.C.	VI-11
PMS01	Potomac River	Fletcher's Boat House, D.C.	VI-11
TDA01	Potomac River	Dalecarlia, Washington, D.C.	VI-12
1APIM000.15	Pimmit Run	Route 120 Bridge, Arlington Co., Va.	VI-12
101028	Potomac River	At Chain Bridge, Mile 106.5, D.C.	VI-13
TBK01	Potomac River	Battery Kimble, D.C.	VI-14
TFB01	Potomac River	Foundry Branch Park, D.C.	VI-14
101002	Potomac River	Three Sisters Island, D. C.	VI-15
PMS10	Potomac River	East Side Of Key Bridge, D.C.	VI-15
PMS21	Potomac River	Highway Bridge, Mile 99.7, D.C.	VI-16
101005	Potomac River	Highway Bridge, Mile 99.7, D.C.	VI-16
101003	Potomac River	Roosevelt Island, D.C.	VI-17
TC001	Potomac River	C & O Canal Georgetown, D.C.	VI-17
101020	Rock Creek	D.C. Line, Mile 101-9.1, D. C.	VI-18
RCM0111	Rock Creek	Rockhold Cr. 1.5 miles above mouth of creek	VI-18
RCR12	Rock Creek		VI-19
RCR09	Rock Creek	Rock Creek At Connecticut Avenue	VI-19
RCR01	Rock Creek	At Meadowbrook Nature Center	VI-20
101004	Potomac River	Memorial Bridge, D.C.	VI-20
1APOT113.49	Potomac River	14th St. Bridge, Washington, D.C.	VI-21
101006	Potomac River	Potomac Park, D.C.	VI-21
101036	Potomac River	Tidal Basin at Independence Ave Bridge	VI-21
PTB01	Potomac River	Tidal Basin	VI-22
Anacostia River			
<u>Northwest Branch</u>			
UOK0008	Unnamed Tributary	Treeline 1000 Ft.S.of Pool Road.	VI-22
UOK0006	Unnamed Tributary	Treeline 1000 Ft.S.of Pool Road.	VI-23
UOK0004	Unnamed Tributary	Treeline 1000 Ft.S.of Pool Road.	VI-23
UOK0001	Unnamed Tributary	Right of Bryants Nursery Rd.,.7 mile from N. Hampshire Ave.	VI-24
UOW0001	Unnamed Tributary	First Rd. W. New Hampshire Ave., N. of MD 198	VI-24
UPS0004	Unnamed Tributary	X-ing Old Orchard Rd. .15 mile from Ednor Road.	VI-25
UDN0013	Unnamed Tributary	300 Ft. Down Rd. rt.of Bryants Nursery Rd. 7 mile from N.H.	VI-25
UIL0002	Unnamed Tributary	W. New Hampshire Ave., N. of MD 198 (settling basin B).	VI-26
UDN0009	Unnamed Tributary	30 Ft. right of Bryants Nursery Rd., 9 mile from New H.Ave.	VI-26
NWA0171	North West Branch Anacostia River	@ trib., NW Br. Pk Disposal Rd. X-ing	VI-27
NWA0160	North West Branch Anacostia River	@ abandoned bridge 150' So. Bonifant Rd. X-ing.	VI-27
01651000	North West Branch Anacostia River	Near Hyattsville, Prince Georges Co., Md.	VI-28
<u>Northeast Branch</u>			
UIC0016	Unnamed Tributary	Opposite of mineral pigments co. across RR tracks and Rt.1.	VI-28
UIC0015	Unnamed Tributary	1000 Ft. below mineral pigments outfall	VI-28

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Table A1. Toxic Parameter Monitoring Stations, Stream Names, and Locations

Station	Stream	Location	Page No.
Anacostia River (cont'd)			
UIC0007	Unnamed Tributary	Ammendale Rd. crossing	VI-29
INCO051	Indian Creek	Ode11 Rd. crossing	VI-29
INCO044	Indian Creek	Powder Mill Rd. crossing	VI-29
INCO036	Indian Creek	Sunnyside Ave. crossing	VI-30
101031	Anacostia River	Rhode Island Ave Bridge On N.W. Branch Of Anacostia River	VI-30
01649500	North East Branch Anacostia River	Riverdale, Prince Georges Co., Md.	VI-30
NEB0016	North East Branch Anacostia River	Riverdale Rd. X-ing D/S gage.	VI-31
101029	Anacostia River	Decatur Rd. Bridge, NE. Branch Of Anacostia River	VI-32
101030	Anacostia River	Bladensburg Rd. Bridge, Anacostia River	VI-32
ANA01	Anacostia River	D. C. Line Bridge	VI-32
TUT01	Anacostia River	Unnamed Tributary, New York & So. Dakota, D.C.	VI-33
THRO1	Anacostia River	Nash St., N.E., Washington, D.C.	VI-33
TNA01	Anacostia River	Nash Street NE., D.C.	VI-34
TWB01	Anacostia River	Watts Branch, D.C.	VI-34
101014	Anacostia River	Benning Road Bridge, D. C.	VI-35
ANA08	Anacostia River	Benning Road Bridge, D.C.	VI-35
101015	Anacostia River	East Capitol Street Bridge, D. C.	VI-35
TDU01	Anacostia River	Fort Dupont, D.C.	VI-36
TFC01	Anacostia River	Fort Chapin, D.C.	VI-36
TPB01	Anacostia River	Pope's Branch, D.C.	VI-37
ANA14	Anacostia River	Pennsylvania Avenue Bridge, D.C.	VI-37
101017	Anacostia River	11th Street Bridge, D.C.	VI-38
TFD01	Anacostia River	Fort Davis, D.C.	VI-38
TFS01	Anacostia River	Fort Stanton, D.C.	VI-39
101019	Anacostia River	Washington Channel, Mile 97.1.1, D. C.	VI-39
PWC04	Anacostia River	Washington Channel, Mile 97-1.1, D.C.	VI-40
TTX27	Anacostia River	Texas Avenue, D.C.	VI-40
ANA21	Anacostia River	South Capitol Street Bridge, D.C.	VI-41
ANA29	Potomac River	Potomac Confluence, D.C.	VI-41
PMS29	Potomac River	Hains Point, D.C.	VI-42
101008	Potomac River	Geisboro Point, D. C.	VI-42
TOR01	Potomac River	Oxon Run Behind Eastgate Mall, D.C.	VI-43
1AFOU004.22	Four Mile Run	Route 244 Bridge, Arlington Co., Va.	VI-43
1AFOU001.92	Four Mile Run	Route 120 Bridge, Arlington Co., Va.	VI-44
1AFOU001.19	Four Mile Run	Arlington Ridge Road Bridge, Arlington Co., Va.	VI-45
1AFOU000.63	Four Mile Run	Arlington Sewage Treatment Plant, Arlington Co., Va.	VI-45
1AFOU000.19	Four Mile Run	George Washington Parkway Bridge, Arlington Co., Va.	VI-46
01652500	Four Mile Run	Alexandria, Va.	VI-47
PMS33	Four Mile Run	Four Mile, D.C.	VI-47
PMS37	Potomac River	Above Sewage Treatment Plant, Mile 96.1, D.C.	VI-48
101009	Potomac River	Above Sewage Treatment Plant, Mile 96.1, D.C.	VI-48
101010	Potomac River	Opposite Sewage Reatment Plant, Mile 95.6, D.C.	VI-48
101011	Potomac River	Below Sewage Treatment Plant, Mile 95.3, D.C.	VI-49
PMS44	Potomac River	Woodrow Wilson Bridge, D.C.	VI-49
XFB7677	Potomac River	0.1 mi. E. Jones Pt. under Br. in mid-channel	VI-50

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Table A1. Toxic Parameter Monitoring Stations, Stream Names, and Locations

Station	Stream	Location	Page No.
Anacostia River (cont'd.)			
1ACAM000.95	Cameron Run	Gaging Station behind Cameron Station, Alexandria, Va.	VI-51
01653000	Cameron Run	Alexandria, Va.	VI-52
PMS51	Potomac River	Rosier Bluff, 100 Meters W. Of Buoy, D.C.	VI-52
1AHUT001.72	Hunting Creek	Route 611/241 Bridge above STP, Alexandria, Va.	VI-53
1AHUT000.57	Hunting Creek	Alexandria Sewage Treatment Plant, Alexandria, Va.	VI-53
1AHUT000.01	Hunting Creek	George Washington Memorial Parkway, Alexandria, Va.	VI-54
232016	Potomac River	Forte Foote, Md	VI-55
232017	Potomac River	Fort Washington, Md	VI-55
UQL0001	Unnamed Tributary	Access P-4A sludge disposal site (MES Project).	VI-55
UQT0001	Unnamed Tributary	Access P-4A sludge disposal site (MES Project).	VI-56
UQW0001	Unnamed Tributary	Access P-4A sludge disposal site (MES Project).	VI-56
PIS0164	Piscataway Creek	Piscataway Rd. crossing, .1 mile from Roaryville Rd.	VI-57
PIS0148	Piscataway Creek	Access P-4A Sludge Disposal Site	VI-57
PIS0133	Piscataway Creek	USS Naval Reservation Rd. X-ing (via Dangerfield Rd.)	VI-58
PIS0099	Piscataway Creek	Brandywine Rd. crossing	VI-58
PIS0066	Piscataway Creek	Unnamed Rd. crossing Crk. .1 mile from Floral Park Rd.	VI-59
PIS0033	Piscataway Creek	RT. 210 Crossing	VI-59
01653650	Piscataway Creek	Near S. Piscataway, Prince Georges Co., Md.	VI-60
XFB2557	Little Hunting Creek	Prince George Co., Va.	VI-60
1ALIF002.48	Little Hunting Creek	Route 1 Bridge, Fairfax Co., Va.	VI-61
1ALIF001.19	Little Hunting Creek	At Sewage Treatment Plant, Fairfax Co., Va.	VI-61
XFB4051	Little Hunting Creek	Near Sewage Treatment Plant, Fairfax Co., Va.	VI-62
1ALIF000.19	Little Hunting Creek	George Washington Parkway Bridge, Fairfax Co., Va.	VI-62
1ADOU002.19	Dogue Creek	Route 623 Bridge, Fairfax Co., Va.	VI-64
15D	Dogue Creek	See FCDPW map.	VI-64
232015	Potomac River	Marshall Hall, Md	VI-65
1ASC0000.76	Scott Run	Route 193 Bridge, Fairfax Co., Va.	VI-65
01655000	Accotink Creek	Near Accotink Station, Fairfax Co., Va.	VI-66
1AAC0014.57	Accotink Creek	Route 620 Bridge, Fairfax Co., Va.	VI-66
1AAC0009.08	Accotink Creek	Route 636 Bridge, Fairfax Co., Va.	VI-67
1AAC0001.78	Accotink Creek	Fort Belvoir, Fairfax Co., Va.	VI-67
101033	Accotink Creek	Colechester Rd. Bridge Approx. .25 Mi. So. Accotink, Va	VI-68
13A	Accotink Bay	Approx. 0.25 mi. N. of mouth at Accotink Bay	VI-69
6G	Accotink Bay	Mouth of Accotink Bay	VI-69
1APOH015.09	Pohick Creek	Route 645 Bridge, Fairfax Co., Va.	VI-70
1APOH007.65	Pohick Creek	Route 641 Bridge, Fairfax Co., Va.	VI-70
01655390	Pohick Creek	Lorton, Fairfax Co., Va.	VI-71
1G	Pohick Creek	Above STP, Rt. 1 Bridge	VI-72
1APOH005.36	Pohick Creek	Route 1 Bridge above STP, Fairfax Co., Va.	VI-72
101032	Pohick Creek	Rt.1 Br., Approx. 1 Mi. On U.S. Rt. 1 S.W. Of Pohick, Va	VI-73
1APOH004.79	Pohick Creek	Route 611 Bridge, Fairfax Co., Va.	VI-73
2G	Pohick Creek	See FCDPW map.	VI-74
3G	Pohick Creek	See FCDPW map.	VI-74
4G	Pohick Creek	See FCDPW map.	VI-75
10G	Pohick Creek	See FCDPW map.	VI-75

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A1. Toxic Parameter Monitoring Stations, Stream Names, and Locations

Station	Stream	Location	Page No.
Anacostia River (cont'd.)			
5G	Pohick Creek	See FCDPW map.	VI-76
7G	Gunston Cove	See FCDPW map.	VI-76
7GB	Gunston Cove	See FCDPW map.	VI-77
7GS	Gunston Cove	See FCDPW map.	VI-77
1APOH000.21	Gunston Cove	Midway into Cove, Buoy 3, Fairfax Co., Va.	VI-78
11G	Gunston Cove	See FCDPW map.	VI-78
12GB	Gunston Cove	See FCDPW map.	VI-79
12GS	Gunston Cove	See FCDPW map.	VI-79
9G	Gunston Cove	See FCDPW map.	VI-80
9GB	Gunston Cove	See FCDPW map.	VI-80
9GS	Gunston Cove	See FCDPW map.	VI-81
8G	Gunston Cove	See FCDPW map.	VO-81
8GS	Gunston Cove	See FCDPW map.	VI-82
8GB	Gunston Cove	See FCDPW map.	VI-82
14PB	Potomac River	Adjacent to mouth of Gunston Cove	VI-83
14PS	Potomac River	Adjacent ot mouth of Gunston Cove	VI-83
514019	Potomac River	Hallowing Point, Va.	VI-84
XEA6596	Potomac River	Off Indian Head Station	VI-85
Lower Estuary			
1APOT101.15	Potomac River	Buoy 75 at Sheridan Pt., Prince George Co., Md.	VII-7
1ACER032.15	Cedar Run	Route 672 Bridge, Fauquier Co., VA	VII-7
1ACER016.46	Cedar Run	Route 806 Bridge, Fauquier Co., VA	VII-8
1ACER000.20	Cedar Run	Route 619 Bridge, Prince William Co., VA	VII-8
1AOCC024.74	Occoquan River	Route 234 Bridge, Prince William Co., Va.	VII-9
1AOCC019.36	Occoquan River	Route 663 Bridge, Prince William Co., Va.	VII-9
101034	Occoquan Creek	9.8 Miles Above The High Dam In The Occoquan Reservoir	VII-10
1AFLB001.40	Flat Branch	Route 1530 Bridge, Manassas, Prince William Co., Va.	VII-10
1AFLB000.64	Flat Branch	Route 1501 Bridge, Manassas, Prince William Co., Va.	VII-11
1ACUB003.74	Cub Run	Route 29/211 Bridge, Fairfax Co., VA	VII-11
1ABIR000.76	Big Rocky Run	Route 29/211 Bridge, Fairfax Co., VA	VII-12
1ABUL011.03	Bull Run	Gage Sta. Old Centerville Rd., Prince William Co., VA	VII-12
1ABUL001.57	Bull Run	Route 612 Bridge, Prince William Co., VA	VII-13
101035	Bull Run	0.3 Miles Above The Confluence Of Bull Run & Occoquan Cr.	VII-13
1AOCC014.34	Occoquan River	Above Ryan's Dam, Fairfax Co., Va.	VII-14
1AOCC011.88	Occoquan River	Jacob's Rock, Fairfax Co., Va.	VII-14
1AOCC008.80	Occoquan River	Under Power Line, Fairfax Co., Va.	VII-15
1AOCC008.11	Occoquan River	Under Power Line at Dam, Fairfax Co., Va.	VII-15
1AOCC006.71	Occoquan Creek	Route 123 Bridge, Prince William Co., Va.	VII-16
101037	Occoquan Creek	Occoquan-Woodbridge Water Supp. Intake Va. Hwy. 123 Bridge	VII-17
1AMAE000.75	Massey Creek	Harborview Sewage Treatment Plant, Fairfax Co., Va.	VII-17
1AOCC002.47	Belmont Bay	Midway into Bay, Buoy 6, Fairfax Co., Va.	VII-18

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Table A1. Toxic Parameter Monitoring Stations, Stream Names, and Locations

Station	Stream	Location	Page No.
Lower Estuary (Cont'd.)			
1ANEAO09.12	Neabsco Creek	Route 640 Bridge, Prince William Co., VA	VII-19
1ANEAO05.15	Neabsco Creek	Above Dale City STP, Prince William Co., VA	VII-19
1ANEAO05.06	Neabsco Creek	Dale City STP, Prince William Co., VA	VII-20
1ANEAO02.89	Neabsco Creek	Route 1 Bridge, Prince William Co., VA	VII-21
1ANEAO00.57	Neabsco Creek	Midway into Bay, Prince William Co., VA	VII-22
1APOW003.11	Powells Creek	Route 1 Bridge, Prince William Co., Va.	VII-23
MAT0224	Mattawoman Creek	Action Lane crossing	VII-23
MAT0175	Mattawoman Creek	Unnamed Rd. crossing at Bolton just N. of Rt. 228	VII-24
MAT0134	Mattawoman Creek	Rt. 227 X-ing Mattawoman Cr. Olging Station.	VII-24
MAT0078	Mattawoman Creek	MD Rt. 225 crossing	VII-25
MAT0076	Mattawoman Creek	Mid-channel where railroad is tangent to creek.	VII-25
MAT0061	Mattawoman Creek	Mid-channel 0.3 mi. U/S From's wharf off Harrison Gut.	VII-26
MAT0051	Mattawoman Creek	Mid-channel 0.3 miles upstream from Mattling's wharf.	VII-26
MAT0030	Mattawoman Creek	Between N. tip Marsh Island AASE @ old pilings.	VII-27
MAT0029	Mattawoman Creek	Midway between tip of Bullocks Pt. & tip on North Shore.	VII-27
MAT0016	Mattawoman Creek	500 Yds. NW of Sweden Pt. Marina.	VII-28
MAT0013	Mattawoman Creek	100 Ft. due E. of Deep Pt. in Channel	VII-28
MAT0010	Mattawoman Creek	100 Ft. off shore from Burning Site on Deep	VII-29
MAT0007	Mattawoman Creek	At Black Day Beacon 1	VII-29
1APOT081.89	Potomac River	Below VEPCO's Discharge near Possum Pt., Charles Co., Md.	VII-30
1APOT081.34	Potomac River	At Shipping Pt., Buoy 43, Charles Co., Md.	VII-30
1ASOQ006.73	South Fork Quantico Creek	Route 619 Bridge, Prince William Co., Va.	VII-31
01658650	South Fork Quantico Creek	Near Dumfries, Prince William Co., Va.	VII-31
01658500	South Fork Quantico Creek	Near Independent Hill, Prince William Co., Va.	VII-32
01658480	Quantico Creek	Near Dumfries, Prince William Co., Va.	VII-32
01658475	Quantico Creek	Above Pyrite Mine near Dumfries, Prince William Co., Va.	VII-33
1AQUA004.46	Quantico Creek	Rt. 1 Br. Prince William Co., VA	VII-33
XEA1840	Potomac River	Buoy 44 between Possum Pt. & Moss Pt.	VII-34
XEA1130	Potomac River	Adjacent to dock at Quantico	VII-35
XDA5027	Potomac River	Off Smith Point, SP, Charles Co., Md.	VII-36
1ACH0003.65	Chopawamsic Creek	Route 1 Bridge, Prince William Co., Va.	VII-36
1APOT079.16	Potomac River	Near Mouth of Chopawamsic Creek, Charles Co., Md.	VII-37
1AAUA019.99	Aquia Creek	Route 610 Bridge, Stafford Co., Va.	VII-38
1AAUA014.51	Aquia Creek	Route 641 Bridge, Stafford Co., Va.	VII-38
1AAUA010.26	Aquia Creek	Route 1 Bridge, Stafford Co., Va.	VII-39
1AAUA001.91	Aquia Creek	Buoy 10 in Aquia Creek, Stafford Co., Va.	VII-40
1AACC006.13	Accokeek Creek	Route 608 Bridge, Stafford Co., Va.	VII-40
1APOM001.04	Potomac Creek	Buoy 5 Potomac Creek, Stafford Co., Va.	VII-41
WDS0018	Wards Run	MD 6 Bridge	VII-41
XDB6719	Nanjemoy Creek	Mid-channel: off mouth of Boot Creek	VII-42
NAJ0100	Nanjemoy Creek	Trappe Bridge, MD 6	VII-42
MYL0008	Mill Run	MD 6 Bridge	VII-43
XDB4532	Nanjemoy Creek	Mid Channel at Blossom Pt. & Benny Gray Point	VII-43
XDB4680	Potomac River	0.8 mi. NE of FL 5 & 0.35 mi. SE of FL 6	VII-44

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A1. Toxic Parameter Monitoring Stations, Stream Names, and Locations

Station	Stream	Location	Page No.
Lower Estuary (cont'd.)			
XDB3321	Potomac River	Buoy 13 off mouth of Nanjemoy Creek	VII-44
XDB3853	Potomac River	0.42 naut. mil. W. of C7 & 0.87 mi. SE of Upper Cedar Point	VII-45
PTC0006	Port Tobacco Creek	MD 6 crossing	VII-45
XDB9786	Port Tobacco Creek	Just W. of Warehouse Point	VII-46
XDB6884	Port Tobacco River	Mid-channel: E. of Windmill Point	VII-46
XDB3499	Potomac River	0.7 naut. miles SW of mouth of Popes Creek	VII-47
1AGAM003.83	Gambo Creek	Route 635 Bridge, King George Co., Va.	VII-47
1AGAM003.50	Gambo Creek	Route 301 Bridge, King George Co., Va.	VII-48
1AWLL003.02	Williams Creek	Route 624 Bridge N. of Dahlgren, King George Co., Va.	VII-48
1AWLL002.21	Williams Creek	Route 301 Bridge, King George Co., Va.	VII-49
1AWLL001.30	Williams Creek	Route 206 Bridge near Dahlgren, King George Co., Va.	VII-49
1AWLL000.00	Williams Creek	At Mouth, King George Co., Va.	VII-50
XCB9070	Upper Machodoc	Lat. 38 19 00 Long. 77 03 00	VII-51
1AUMC009.61	Upper Machodoc Creek	Route 301 Bridge, King George Co., Va.	VII-51
1AUMC004.43	Upper Machodoc Creek	Route 218 Bridge, King George Co., Va.	VII-52
1AUMC002.32	Upper Machodoc Creek	At Power Cables, King George Co., Va.	VII-53
1AUMC000.61	Upper Machodoc Creek	King George Co., Va.	VII-53
1AMUC001.36	Upper Machodoc Creek	Near Mouth of Williams Creek, King George Co., Va.	VII-54
1AMON002.60	Monroe Creek	End of Route 1164, Westmoreland Co., Va.	VII-54
XDC1806	Potomac River	Mid-channel: 0.06 mi. N. of bridge.	VII-55
XDC1909	Potomac River	Off Aqualand Deck, 0.06 mi. N. of bridge.	VII-55
XDC1706	Potomac Estuary	Mid-channel at Morgantown Bridge	VII-56
XDC0407	Potomac River	0.26 mi. E. FL 33, 803.3, 184.7, near Lower Cedar Pt	VII-57
XDC0511	Potomac River	0.16 mi. E. Lower Cedar Point	VII-57
1APIN000.57	Pine Hill Creek	Route 205 Bridge, King George, Co., Va.	VII-58
XCC6634	Potomac River	Mid-channel: Swan Pt. and White Pt.	VII-58
Wicomico River			
UWN0002	Unnamed Tributary	On MD Rt.5 just SE of MD 382 junction	VII-59
JOR0030	Jordan Swamp	Rt. 382 X-ing, just W. of Mattawoman - Beantown Rd.	VII-59
ZEK0117	Zekiah Swamp Run	MD Rt. 5 Crossing	VII-60
AFR0025	Allens Fresh Run	Bridge on MD. Rt. 234	VII-60
GIC0085	Gilbert Creek	Bridge where Keech Rd. meets Oaks Rd. 1.6 miles W. of Oaks	VII-61
GIC0004	Gilbert Creek	MD 234 - Budds Cr. Rd. Bridge	VII-61
UQI0003	Unnamed Tributary	First trib. E. of Clover Hill Rd., 1 mile from 235.	VII-62
UQK0004	Unnamed Tributary	100 Yds. below pond, S. MD Wood Treating Co., W. Hollywood.	VII-62
UQJ0010	Unnamed Tributary	Morgan Rd. X-ing of 1st trib. Brooks Run. N & W of Rt. 245.	VII-62
BSK0013	Brooks Run	MD Rt. 245 crossing, 1.7 miles from MD Rt. 235,	VII-63
MCN0047	McIntosh Run	Clover Hill-McIntosh Rd. X-ing, 2.5 miles NW Leonardtown.	VII-63
MCN0017	McIntosh Run	MD Rt. 5 crossing, 1.25 miles NW of Leonardtown.	VII-63
XCD4364	St. Clement Bay	400 yds. SW of Long Point	VII-64
XBD6829	Nomini Creek	Lat. 38 06 45 Long. 76 42 55	VII-64
XBF8885	Nomini Bay	Lat. 38 08 45 Long. 76 28 30	VII-65

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Table A1. Toxic Parameter Monitoring Stations, Stream Names, and Locations

Station	Stream	Location	Page No.
Lower Estuary (cont'd.)			
XBE7084	Lower Machodoc	Lat. 38 07 00 Long. 76 38 25	VII-65
XBE9541	Potomac River	At Buoy BW 51B off Ragged Point	VII-65
XDA8825	Potomac River	1700 yds. W. of Sandy Point	VII-66
XBE1722	Yeocomico River	Lat. 38 01 40 Long. 76 38 25	VII-67
XBF6154	Potomac River	250 yds. W. of FL R4, 18 ft. depth	VII-67
XAF9685	Coan River	Lat. 37 59 35 Long 76 28 30	VII-68
1ACOA002.60	Coan River	Buoy 19, Northumberland Co., Va.	VII-68
1ACOA001.74	Coan River	Buoy 14, Northumberland Co., Va.	VII-69
1ACOA001.01	Coan River	Buoy 8, Northumberland Co., Va.	VII-69
1ACOA000.00	Coan River	Buoy 6, mouth of Coan River, Northumberland Co., Va.	VII-70
XBF3080	Potomac River	1400 yds SSW of Cornfield Harbor	VII-70
XBG4113	Lake Conoy	Southern Cove	VII-71
XBG4515	Lake Conoy	Eastern Cove	VII-71
XBG4714	Lake Conoy	Northern Cove	VII-72
XBG4599	Lake Conoy	Upper end of Northwest Cove	VII-72
XBG4399	Lake Conoy	North of Treasure Island	VII-73
XBG4111	Lake Conoy	Channel to Potomac	VII-73
XDA4238	Potomac River	Buoy 27 SW of Smith Point	VII-74

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

APPENDIX 2

Priority and Safe Drinking Water Act Pollutants
(With Analyzed Pollutants Indicated)

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A2 Priority & Safe Drinking Water Act Pollutants,
With Analyzed Parameters Indicated

	Media* Analyzed	Priority* Pollutant	Safe Drinking* Water Act
<u>INORGANIC PARAMETERS</u>			
Aluminum			sdwa
Antimony	w	pp	sdwa
Arsenic	f		
Arsenic	s		
Arsenic	w	pp	sdwa
Asbestos		pp	sdwa
Barium			sdwa
Beryllium	s		
Beryllium	w	pp	sdwa
Cadmium	f		
Cadmium	fdwt		
Cadmium	s		
Cadmium	w	pp	sdwa
Chromium	w	pp	sdwa
Chromium	f		
Chromium	fdwt		
Chromium	s		
Chromium+6	w	pp	
Copper	f		
Copper	fdwt		
Copper	s		
Copper	w	pp	sdwa
Cyanide	w	pp	sdwa
Fluoride			sdwa
Lead	f		
Lead	fdwt		
Lead	s		
Lead	w	pp	sdwa
Mercury	f		
Mercury	s		
Mercury	w	pp	sdwa
Molybdenum			sdwa
Nickel	s		
Nickel	w	pp	sdwa
Nitrate			sdwa
Nitrite			sdwa
Selenium	w	pp	
Silver	w	pp	sdwa
Sodium			sdwa
Sulfate			sdwa
Tellurium			sdwa
Thallium		pp	
Vanadium			sdwa

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A2 Priority & Safe Drinking Water Act Pollutants,
With Analyzed Parameters Indicated

	Media* Analyzed	Priority* Pollutant	Safe Drinking* Water Act
Zinc	f		
Zinc	s		
Zinc	w	pp	sdwa
<u>ORGANIC PARAMETERS</u>			
Acenaphthylene		pp	
Acenaphthene		pp	
Acrolein		pp	
Acrylamide			sdwa
Acrylonitrile		pp	
Adipates			sdwa
Alachlor			sdwa
Aldicarb			sdwa
Aldicarb Sulfone			sdwa
Aldrin	f		
Aldrin	s		
Aldrin	w	pp	
Alpha_BHC	f	pp	
Alpha-endosulfan		pp	
Anthracene		pp	
Atrazine			sdwa
1,2-benzanthracene (benzo(a)anthracene)		pp	
Benzene		pp	sdwa
Benzidine		pp	
Benzo(a)pyrene (3,4-benzo-pyrene)		pp	
3,4-Benzofluoranthene (benzo(b)fluoranthene)		pp	
11,12-benzofluoranthene (benzo(b)fluroanthane)		pp	
1,12-benzoperylene (benzo(ghi)perylene)		pp	
Beta-BHC		pp	
Beta-endosulfan		pp	
Bromoform (tribromomethane)		pp	
4-bromophenyl phenyl ether		pp	
Butyl benzyl phthalate		pp	
Carbofuran			sdwa
Carbon tetrachloride (tetrachloromethane)		pp	sdwa
Chlordane	f		
Chlordane	sdwt		
Chlordane	w	pp	sdwa
Bis(2-chloroethyl) ether		pp	

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A2 Priority & Safe Drinking Water Act Pollutants,
With Analyzed Parameters Indicated

	Media* Analyzed	Priority* Pollutant	Safe Drinking* Water Act
Chlorobenzene		pp	
Chlorodibromomethane		pp	
Chloroethane		pp	
Bis(2-chloroethoxy) methane		pp	
2-chloroethyl vinyl ether (mixed)		pp	
Chloroform (trichloromethane)		pp	
Bis(2-chloroisopropyl) ether		pp	
2-chloronaphthalene		pp	
2-chlorophenol		pp	
4-chlorophenyl phenyl ether		pp	
Chrysene		pp	
2,4-D			sdwa
Dalapon			sdwa
p,p'-DDT	f	pp	
p,p'-DDE	f	pp	
p,p'-DDD	f	pp	
Delta-BHC			
(PCB-polychlorinated biphenyls)		pp	
1,2,5,6-dibenzathracene (dibenzo(h)anthracene)		pp	
Dibromochloropropane			sdwa
Dibromomethane			sdwa
1,2-dichlorobenzene		pp	
1,3-dichlorobenzene		pp	
1,4-dichlorobenzene		pp	
o-dichlorobenzene			sdwa
p-dichlorobenzene			sdwa
3,3'-dichlorobenzidine		pp	
Dichlorobromomethane		pp	
1,1-dichloroethane		pp	sdwa
1,2-dichloroethane		pp	
1,1-dichloroethylene		pp	sdwa
Cis 1,2-dichloroethylene			sdwa
Trans 1,2-dichloroethylene		pp	sdwa
Trichloroethylene			sdwa
2,4-dichlorophenol		pp	
1,2-dichloropropane		pp	
1,2-dichloropropylene (1,3-dichloropropene)		pp	
Dieldrin	f		
Dieldrin	s		
Dieldrin	w	pp	
Diethyl phthalate		pp	
2,4-dimethylphenol		pp	
Dimethyl phthalate		pp	

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A2 Priority & Safe Drinking Water Act Pollutants,
With Analyzed Parameters Indicated

	Media* Analyzed	Priority* Pollutant	Safe Drinking* Water Act
Di-n-butyl phthalate		pp	
4,6-dinitrocresol		pp	
2,4-dinitrophenol		pp	
2,4-dinitrotoluene		pp	
2,6-dinitrotoluene		pp	
Di-n-octyl phthalate		pp	
Dinoseb			sdwa
1,2-diphenylhydrazine		pp	
Diquat			sdwa
Endosulfan sulfate		pp	
Endothall			sdwa
Endrin	f		
Endrin	s		
Endrin	w	pp	sdwa
Endrin aldehyde		pp	
Epichlorohydrin			sdwa
Ethylbenzene		pp	
Ethylene dibromide			sdwa
Bis(2-ethylhexyl) phthalate		pp	
Fluoranthene		pp	
Fluroene		pp	
Gamma_BHC(Lindane)	f		
Gamma_BHC(Lindane)	s		
Gamma_BHC(Lindane)	w	pp	sdwa
Glyphosphate			sdwa
Heptachlor	f		
Heptachlor	s		
Heptachlor		pp	sdwa
Heptachlor_epoxide	f		
Heptachlor_epoxide	w	pp	sdwa
Hexachlorobenzene	f	pp	
Hexachlorobutadiene		pp	
Hexachlorocyclopentadiene		pp	sdwa
Hexachloroethane		pp	
Indeno (1,2,3-cd)pyrene (2,3-o-phenylenepyrene)		pp	
Isophorone		pp	
Lindane(organisms)(STORET param)	f	pp	
Methoxychlor			sdwa
Methyl bromide (bromomethane)		pp	
Methyl chloride (chloromethane)		pp	
Methylene chloride (dichloromethane)		pp	sdwa
Naphthalene		pp	
Nitrobenzene		pp	

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A2 Priority & Safe Drinking Water Act Pollutants,
With Analyzed Parameters Indicated

	Media* Analyzed	Priority* Pollutant	Safe Drinking* Water Act
2-nitrophenol		pp	
4-nitrophenol		pp	
Nitrophenols		pp	
N-nitrosodimethylamine		pp	
N-nitrosodi-n-propylamine		pp	
N-nitrosodiphenylamine		pp	
Parachlorometa cresol		pp	
PAH's			sdwa
PCB-1016 (Arochlor 1016)		pp	
PCB-1221 (Arochlor 1221)		pp	
PCB-1232 (Arochlor 1232)		pp	
PCB-1242 (Arochlor 1242)	f	pp	
PCB-1248 (Arochlor 1248)		pp	
PCB-1254 (Arochlor 1254)	f	pp	
PCB-1260 (Arochlor 1260)	f	pp	
PCB's (STORET parameter)	f		
PCB's		pp	sdwa
Pentachlorophenol	f		
Pentachlorophenol		pp	sdwa
Phenathrene		pp	
Phenol		pp	
Phenols	w		
Phthalates			sdwa
Pichloram			sdwa
Pyrene		pp	
Simazine			sdwa
Styrene			sdwa
2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)		pp	sdwa
1,1,2,2-tetrachloroethane		pp	
Tetrachloroethylene		pp	sdwa
Toluene		pp	sdwa
Toxaphene	f		
Toxaphene		pp	sdwa
2,4,5-TP (Silvex)			sdwa
Trichlorobenzenes			sdwa
1,2,4-trichlorobenzene		pp	
1,1,1-trichloroethane		pp	sdwa
1,1,2-trichloroethane		pp	
Trichloroethylene		pp	sdwa
2,4,6-trichlorophenol		pp	
Trihalomethanes (total)			sdwa
Vinyl chloride (chloroethylene)		pp	sdwa
Vydate			sdwa
Xylene			sdwa

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A2 Priority & Safe Drinking Water Act Pollutants,
With Analyzed Parameters Indicated

	Media* Analyzed	Priority* Pollutant	Safe Drinking* Water Act
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* NOTES:

Media in which chemicals were subject to analysis in this study:

- f: fish tissue
- fdwt: fish tissue, dry weight
- s: sediment
- sdwt: sediment, dry weight
- w: water

pp:

The 126 Priority Pollutants (when in water) as specified in the Federal Register, Section 423.17, Appendix A, Vol. 47, No. 224, Friday, November 19, 1982.

sdwa:

Chemicals to be regulated by Safe Drinking Water Act and its Amendments (these are among 83 contaminants for which final regulations (MCL's) are to be developed by June 1989).

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

APPENDIX A3

Detection Limits for Metals Analyses

Public Utilities

Table A3 Detection Limits (ug/l) for Metals Analyses

Public Utilities

Parameter	FCWA	WSSC	WAD	FCDPW
Arsenic	1.0	1.0	1.0	2.0
Barium	2.0	10	5.0	
Cadmium	0.1	1.0	0.1	4.0
Chromium	1.0	1.0	1.0	6.0
Copper	20	1.0	1.0	6.0
Lead	0.2	5.0	0.1	1.0
Mercury	0.2	0.2	0.1	0.02
Zinc	5.0		1.0	2.0

FCWA: Fairfax County Water Authority

WSSC: Washington Suburban Sanitary Commission

WAD: Washington Aqueduct Division; U.S. Army Corps of Engineers

FCDPW: Fairfax County Department of Public Works

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

APPENDIX A4

Flagged Parameter Values and Remark Codes
in Storet Data Files

Table A4 Flagged Parameter Values and Remark Codes in Stored Data Files

VASWCB Value	No.	USGS Value	No.	WWDNR Value	No.	MDOEP Value	No.	PADER Value	No.	DCCRA Value	No.
Antimony											
water											
fish											
Arsenic	7	K									
2.00E-01						5.0E-02	77				L
2.10E-01	4	K				1.0E-01	1				L
1.80E+00	1	K						1.000E+02	3		K
1.800E+00	1	K		4.000E+01	53			5.000E+01	3		L
2.10E+00	2	K		8.000E+01	2						
2.300E+00	1	K									
2.500E+00	1	K									
2.800E+00	1	K									
2.800E+00	1	K									
3.200E+00	1	K									
3.500E+00	1	K									
8.800E+00	1	K									
8.100E+00	1	K									
9.200E+00	1	K									
9.400E+00	1	K									
9.500E+00	1	K									
9.600E+00	1	K									
9.700E+00	1	K									
9.800E+00	2	K									
9.800E+00	1	K									
1.000E+01	2	K									
sediment											
Arsenic	1	K									
1.40E-01											
2.00E-01	1	K									
1.10E+00	3	K									
1.300E+00	2	K									
1.400E+00	2	K									
1.500E+00	3	K									
1.800E+00	1	K									
1.700E+00	1	K									
1.800E+00	2	K									
1.900E+00	1	K									
2.100E+00	3	K									
2.200E+00	1	K									
2.700E+00	1	K									
4.300E+00	1	K									
4.500E+00	1	K									
5.000E+00	1	K									
5.800E+00	1	K									
								1.000E+01	2		K

Table A4, Continued

VASNCB Value	No.	USGS Value	No.	WWDNR Value	No.	MDOEP Value	No.	PADER Value	No.	DCCRA Value	No.						
Arsenic sediment, cont'd																	
6.200E+00	1	K															
6.500E+00	1	K															
6.700E+00	1	K															
6.800E+00	1	K															
9.000E+00	1	K															
9.800E+00	1	K															
3.800E+01	1	K															
4.100E+01	1	K															
4.200E+01	1	K															
4.300E+01	2	K															
4.400E+01	2	K															
4.800E+01	1	K															
4.800E+01	1	K															
5.000E+01	4	K															
Arenic water																	
0.000E+00	2	K	0.000E+00	1	K	4.000E-01	4	K	5E-03	4	L	4.000E+00	8	K	5	4	<
4.998E-01	1	K	1.000E+00	99	K	5.000E-01	4	K	10E-03	6	L	5.000E+00	4	K	5	59	<
9.998E-01	114	K				1.000E+00	3	K	10E-02	9	L	1.000E+01	3	K			
1.000E+00	142	K				2.000E+00	281	K									
2.000E+00	612	K				3.000E+00	6	K									
2.798E+00	18	K				4.000E+00	5	K									
3.000E+00	136	K				1.000E+01	10	K									
4.998E+00	395	K				3.000E+01	30	K									
5.000E+00	1	K															
2.998E+01	2	K															
2.000E+03	2	K															
Beryllium sediment																	
1.000E+00	1	K															
1.800E+00	3	K															
1.700E+00	2	K															
1.800E+00	1	K															
1.800E+00	1	K															
2.000E+00	2	K															
2.100E+00	1	K															
2.200E+00	2	K															
2.300E+00	2	K															
2.400E+00	1	K															
2.500E+00	1	K															
2.800E+00	1	K															
6.800E+00	1	K															
7.800E+00	1	K															
7.700E+00	1	K															

Table A4, Continued

VASWCB Value	No.	USGS Value	No.	WWDNR Value	No.	MDOEP Value	No.	PADIER Value	No.	DCCFRA Value	No.
Beryllium											
water											
1.000E+00	27	K						3.000E+00	3	K	
1.800E+00	2	K						5.000E+00	3	K	
1.700E+00	1	K						2.899E-02	4	L	
1.800E+00	1	K									
1.900E+00	2	K									
2.000E+00	3	K									
2.100E+00	4	K									
2.200E+00	1	K									
2.500E+00	2	K									
2.800E+00	1	K									
3.300E+00	1	K									
5.800E+00	1	K									
6.300E+00	1	K									
6.800E+00	1	K									
6.700E+00	1	K									
Cadmium											
fish											
5.000E-02	1	K		4.000E-02	1	K	1.0E-02		12	L	
6.000E-02	1	K		5.000E-02	4	K					
1.000E-01	24	K									
1.100E-01	3	K									
2.000E-01	8	K									
2.100E-01	4	K									
Cadmium											
fish/twt											
9.000E-02	1	K						5.000E+00	88	K	
1.000E-01	6	K						2	31	<	
1.100E-01	2	K						5	32	<	
1.300E-01	2	K									
1.400E-01	2	K									
1.500E-01	2	K									
1.800E-01	3	K									
1.700E-01	1	K									
2.000E-01	1	K									
Cadmium											
sediment											
6.000E-02	2	K	1.000E+00	6	K			1.000E+01	85	K	
9.000E-02	4	K	1.000E+01	14	K			5	31	<	
1.000E-01	4	K						10	32	<	
1.100E-01	6	K									
1.200E-01	4	K									
1.300E-01	6	K									
1.400E-01	4	K									

Table A4, Continued

VASWCB Value	No.	USGS Value	No.	WVDNR Value	No.	MDOEP Value	No.	PADER Value	No.	DCCRA Value	No.			
Cadmium sediment, cont'd														
1.500E-01	5	K												
1.600E-01	10	K												
1.700E-01	7	K												
1.800E-01	6	K												
1.900E-01	4	K												
2.000E-01	30	K												
2.100E-01	12	K												
2.200E-01	8	K												
2.300E-01	3	K												
2.400E-01	2	K												
2.500E-01	2	K												
2.600E-01	1	K												
2.800E-01	1	K												
2.900E-01	9	K												
3.000E-01	1	K												
3.900E-01	2	K												
4.000E-01	1	K												
4.100E-01	1	K												
4.200E-01	1	K												
4.300E-01	2	K												
4.400E-01	1	K												
4.600E-01	1	K												
4.800E-01	1	K												
5.000E-01	4	K												
6.000E-01	5	K												
7.000E-01	2	K												
8.000E-01	1	K												
1.900E+00	1	K												
1.500E+01	1	K												
Cadmium water														
0.000E+00	3	K	1.000E+00	6	K	4.000E-01	1	K	10E-03	16	L	2.000E-01	2	K
9.999E-01	123	K	2.000E+00	62	K	1.000E+00	15	K	2E-02	7	L	5.000E-01	2	K
1.000E+00	107	K	3.000E+00	3	L	2.000E+00	121	K	3E-02	220	L	1.000E+00	9	K
2.000E+00	5	K	0.000E+00	170	U	3.000E+00	35	K	4E-02	8	L	3.000E+00	17	K
3.000E+00	9	K				4.000E+00	927	K	5E-02	311	L	3.000E+00	8	L
4.000E+00	6	K				5.000E+00	2	K	6E-02	8	L			
5.000E+00	4	K				1.000E+01	40	K	10E-02	24	L			
6.000E+00	2	K				2.000E+01	12	K	5E-01	1	L			
7.000E+00	4	K												
8.000E+00	3	K												
9.999E+00	1371	K												
1.000E+01	308	K												
1.199E+01	4	K												

Table A4, Continued

VASWCB Value	No.	USGS Value	No.	WWDNR Value	No.	MDOEP Value	No.	PADER Value	No.	DCCRA Value	No.			
Cadmium														
water, cont'd														
1.288E+01	1	K												
1.398E+01	2	K												
1.789E+01	1	K												
2.489E+01	3	K												
3.288E+01	1	K												
Chromium														
water														
0.000E+00	2	K	2.000E+01	198	K	4.000E+02	2	K	10E-03	39	L	4.000E+00	8	K
1.000E-02	1	K	0.000E+00	72	U	8.000E-02	1	K	5E-02	187	L	1.000E+01	13	K
1.000E+00	87	K				1.000E-01	1	K	1.0E-01	48	L	7.000E+01	2	K
9.988E+00	1886	K				1.500E-01	1	K	10E-02	241	L	1.000E+01	6	L
1.000E+01	284	K				4.700E-01	1	K	5E-01	1	L			
5.988E+01	1	K				2.000E+00	2	K	5.0E-01	80	L			
9.988E+01	3	K				4.000E+00	313	K						
1.000E+03	1	K				5.000E+00	2	K						
						6.000E+00	2	K						
						1.000E+01	81	K						
						2.000E+01	56	K						
Chromium+6														
water														
			0.000E+00	1	K	0.000E+00	2	K	10E-03	9	L	1.000E+01	3	K
						1.000E+00	882	K	2E-02	5	L			
						3.000E+00	1	K	5E-02	1	L			
						4.000E+00	12	K	3E-01	1	L			
						5.000E+00	2	K						
Chromium														
fish														
2.000E-01	2	K										1.000E-02	20	K
												5.000E+00	6	K
												1.000E+01	65	K
												5.000E+01	142	K
												8.000E+01	14	K
												1.000E-02	24	K
												10	31	<
												25	31	<
Chromium														
sediment														
			1.000E+01	8	K							5.000E+01	88	K
												5.400E+01	1	K
												5	28	<
												50	32	<

Table A4, Continued

VASWCB Value	No.	USGS Value	No.	WVDNR Value	No.	MDOEP Value	No.	PADER Value	No.	DCCRA Value	No.
Copper	fish					1.0E-02	9	L			
Copper	sediment	1.000E+01	7	K						4	1
Copper	water									5	62
0.000E+00	2	K	6	K	1.000E+00	10E-03	25	L	1.000E+01	K	
9.999E-01	1	K	3	K	2.000E+00	2E-02	5	L	5.000E+01	K	
9.999E+00	1771	K	57	K	4.000E+00	3E-02	37	L	8.000E+01	K	
1.000E+01	502	K	94	U	1.000E+01	5E-02	484	L	1.000E+01	L	
9.999E+01	4	K			2.000E+01	10E-02	60	L			
					3.000E+01						
					5.000E+01						
Lead	fish										
1.000E+00	16	K									
2.000E+00	5	K									
2.100E+00	7	K									
Lead	fishdwt										
9.000E-01	1	K									
1.000E+00	1	K									
1.100E+00	1	K									
1.300E+00	1	K									
1.400E+00	1	K									
1.500E+00	1	K									
1.600E+00	1	K									
1.620E+00	1	K									
1.700E+00	1	K									
2.000E+00	1	K									
3.000E+00	4	K									
4.000E+00	7	K									
4.100E+00	2	K									
4.300E+00	1	K									
5.000E+00	1	K									
5.300E+00	1	K									
Lead	sediment										
5.000E+00	2	K	10	K						5	7
										20	15
										100	10

Table A4, Continued

VASWCB Value	No.	USGS Value	No.	WVNDNR Value	No.	MDOEP Value	No.	PADER Value	No.	DCCRA Value	No.
Lead											
0.00E+00	1	K	16	K	2	K	105	L	14	K	
2.00E-03	1	K	4	K	5	K	118	L	6	K	
3.00E-01	1	K	3	L	1	K	57	L	17	K	
1.00E+00	39	K	15	U	1	K	255	L			
2.00E+00	210	K			32	K					
3.00E+00	91	K			402	K					
4.00E+00	5	K			3	K					
5.00E+00	2	K			67	K					
7.00E+00	1	K			10	K					
9.00E+00	1	K			2	K					
9.99E+00	1155	K			10	K					
1.899E+01	1	K			402	K					
2.999E+01	3	K			4	K					
3.999E+01	1	K			1	K					
9.999E+01	3	K			20	K					
					58	K					
					1	L					
Mercury											
2.00E-02	5	K									
8.00E-02	1	K									
9.00E-02	4	K									
1.00E-01	5	K									
1.10E-01	4	K									
1.20E-01	5	K									
1.30E-01	1	K									
1.40E-01	2	K									
Mercury											
6.00E-02	7	K									
7.00E-02	1	K	6	K							
8.00E-02	3	K									
9.00E-02	6	K									
1.00E-01	16	K									
1.10E-01	5	K									
1.20E-01	1	K									
1.30E-01	5	K									
1.40E-01	14	K									
1.50E-01	5	K									
1.60E-01	2	K									
1.70E-01	8	K									
1.80E-01	3	K									
1.80E-01	2	K									
2.00E-01	28	K									
2.20E-01	1	K									

Table A4, Continued

VASWCB Value	No.	USGS Value	No.	WWDNR Value	No.	MDOEP Value	No.	PADER Value	No.	DCORA Value	No.		
Mercury		sediment, cont'd											
2.400E-01	2	K											
2.600E-01	2	K											
4.000E-01	1	K											
Mercury		water											
0.000E+00	1	K	15	K	0.000E+00	4	K	5E-04	8	L	1.000E+00	6	K
4.888E-03	1	K	14	K	1.000E-02	1	K	2E-01	6	L	2.000E+00	12	K
9.888E-03	1	K	3	L	2.000E-02	3	K				5.000E+00	1	K
5.000E-02	1	K			1.000E-01	38	K				5.000E-01	8	L
3.000E-01	367	K			2.000E-01	608	K						
4.888E-01	1455	K			2.500E-01	4	K						
5.000E-01	52	K			4.000E-01	38	K						
5.008E-01	876	K			1.000E+00	12	K						
6.008E-01	1	K			2.000E+00	8	K						
8.009E-01	1	K			10E-05	245	L						
1.700E+00	1	K											
4.888E+00	3	K											
5.000E+00	3	K											
9.888E+00	1	K											
Nickel		sediment											
1.100E+00	1	K											
1.300E+00	1	K											
1.500E+00	1	K											
1.800E+00	2	K											
4.000E+00	1	K											
4.400E+00	1	K											
4.800E+00	1	K											
5.000E+00	1	K											
Nickel		water											
1.000E+01	108	K	1	L	0.000E+00	1	K	10E-03	3	L	1.000E+01	7	K
1.000E+02	36	K	2	U	2.000E+00	3	K	5E-02	28	L	2.500E+01	7	K
					4.000E+00	3	K	10E-02	50	L	5.000E+01	6	K
					1.000E+01	21	K	1E-01	33	L	1.400E+02	2	K
					2.000E+01	36	K	2E-01	80	L	1.000E+01	6	K
					4.000E+01	203	K	3E-01	8	L			
								5E-01	96	L			

Table A4, Continued

VASWCB Value	No.	USGS Value	No.	WWDNR Value	No.	MDOEP Value	No.	PADER Value	No.	DCCRA Value	No.
Selenium											
water											
1.000E+00	34	K	23	K	2	K	2				
1.800E+00	1	K			2	K	2				
1.900E+00	2	K			2	K	2				
2.000E+00	2	K			14	K	14				
2.100E+00	4	K			1	K	1				
2.200E+00	2	K			2	K	2				
					273	K	273				
Silver											
water											
		1.000E+00	10	K	1	K	1	1.000E+00	3		L
		2.000E+00	41	K	155	K	155				
		0.000E+00	204	U	2	K	2				
					219	K	219				
					3	K	3				
					8	K	8				
					5	K	5				
					48	K	48				
Zinc											
water											
0.000E+00	1	K	107	K	9	K	9	1.000E+01	5	K	
4.000E-02	1	K	38	U	1	K	1	1.000E+01	1	L	
4.998E-01	1	K			4	K	4				
9.999E+00	1250	K			21	K	21				
1.000E+01	251	K			8	K	8				
1.999E+01	1	K									
4.998E+01	1	K									
6.999E+01	2	K									
7.000E+01	1	K									
9.999E+01	4	K									
3.999E+02	1	K									
Aldrin											
fish											
1.000E-01	6	K			5	K	5				
1.000E-02	29	U			2	U	2				
1.000E-01	4	U									
5.000E-01	5	U									
1.000E+00	15	U									
Aldrin											
sediment											
		1.000E-01	3	K						0.2	63

Table A4, Continued

VAS/VCB Value	No.	USGS Value	No.	WVDNR Value	No.	MDOEP Value	No.	PADER Value	No.	DCORA Value	No.
Aldrin	water	0.000E+00	1	U							
Alpha_BHC	fish										
1.000E-01	6	K			8	K	5.0E-04		142	L	
1.000E-02	28	U		1.000E-02	3	K	1.0E-03		27	L	
1.000E-01	4	U		0.000E+00	1	U					
5.000E-01	5	U									
1.000E+00	15	U									
Gamma_BHC(Lindane)	fish										
1.000E-01	6	K			2	K	5.0E-04		201	L	
1.000E-02	28	U		1.000E-02	12		1.0E-03			L	
1.000E-01	4	U									
5.000E-01	5	U									
1.000E+00	15	U									
Gamma_BHC(Lindane)	Sediment	1.000E-01	3	K							
Gamma_BHC(Lindane)	water	0.000E+00	1	U							
Lindane(organisms)	fish										
1.000E-02	29	U									
1.000E-01	4	U									
5.000E-01	5	U									
1.000E+00	15	U									
Chlordane	fish										
1.000E+00	6	K							5	L	
1.000E-02	28	U									
1.000E-01	3	U									
5.000E-01	5	U									
1.000E+00	15	U									
Chlordane_dwt	Sediment	1.000E+00	3	K							

Table A4, Continued

VASWCB Value	No.	USGS Value	No.	WWDNR Value	No.	MDOEP Value	No.	PADER Value	No.	DCCRA Value	No.
Chlordane	water	0.000E+00	1	U							
Cyanide	water			1.000E-03 1.000E+00	173 2	K K	8	10E-04	8	L	L
Dieldrin	fish			1.000E-02 0.000E+00	3 5	K U	52 8	5.0E-04 1.0E-03	52 8	L L	L L
1.000E-01											
1.000E-02											
1.000E-01											
5.000E-01											
1.000E+00											
Dieldrin	sediment	1.000E-01	3	K							
Dieldrin	water	0.000E+00	1	U							
Erdrin	fish			1.000E-02 0.000E+00	4 3	K U	263 3	5.0E-04 1.0E-03	263 3	L L	L L
1.000E-01											
1.000E-02											
1.000E-01											
5.000E-01											
1.000E+00											
Erdrin	sediment	1.000E-01	3	K							
Erdrin	water	0.000E+00	1	U							

Table A4, Continued

VASWCB Value	No.	USGS Value	No.	WWDNR Value	No.	MDOEP Value	No.	PADER Value	No.	DCCRA Value	No.
Heptachlor Epoxide 1.000E-01	6	fish K				1.000E-03 1.000E-02	1 3	K K	140 9	L L	
Heptachlor_Epoxide		Water 0.000E+00	1	U							
Heptachlor 1.000E-01	6	fish K		1.000E-02 0.000E+00	1 5						
Heptachlor		sediment	3	K							
Heptachlor		water	1	U							
Hexachlorobenzene 1.000E-01	6	fish K				5.0E-04	21	L			
1.000E-02	28	U									
1.000E-01	4	U									
5.000E-01	5	U									
1.000E+00	15	U									
PCB-1242		fish				1.0E-02	18	L			
PCB-1254 1.000E+00	5	fish K									
PCB1260 1.000E+00	6	fish K		1.000E-02 1.000E-01 0.000E+00	4 3 2						

Table A4, Continued

VASWCB Value	No.	USGS Value	No.	WWDNR Value	No.	MDOEP Value	No.	PADER Value	No.	DCCRA Value	No.
FCB's											
1.000E+00	fish										
1.000E+00	5	K				1.0E-02	4	L			
1.000E-02	28	U									
1.000E-01	4	U									
5.000E-01	5	U									
1.000E+00	13	U									
P,P'DDD											
1.000E-02	fish										
1.000E-02	28	U		1.000E-02	2	5.0E-04	34	L			
1.000E-01	4	U		0.000E+00	3	1.0E-03	8	L			
5.000E-01	5	U									
1.000E+00	15	U									
P,P'DDE											
1.000E-02	fish										
1.000E-02	24	U		1.000E-02	2	5.0E-04	1	L			
1.000E-01	4	U		0.000E+00	2						
5.000E-01	5	U									
1.000E+00	15	U									
P,P'DDT											
1.000E-02	fish										
1.000E-02	28	U				1.0E-03	227	L			
1.000E-01	4	U									
5.000E-01	5	U									
1.000E+00	15	U									
Pentachlorophenol											
1.000E-02	fish										
1.000E-02	28	U									
1.000E-01	2	U									
5.000E-01	5	U									
1.000E+00	13	U									
Phenols											
1.000E-03	water										
1.000E-03	2	K		1.000E+00	114						
				2.000E+00	14						
Toxaphene											
1.000E+00	fish										
1.000E+00	8	K				1.0E-02	264	L			
	water										
				0.000E+00	1						U

Table A4, Continued

VASWCB Value	No.	USGS Value	No.	WVDNR Value	No.	MDOEP Value	No.	PADER Value	No.	DCCRA Value	No.
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Explanation of Stored Remark Codes

- K Off-scale low. Actual value is not known, but known to be less than value shown. Usually, used to indicate a failure to detect the substance.
- L Off-scale high. Actual value not known, but known to be greater than value shown.
- U Material was analyzed for, but not detected. Value stored is the limit of detection for the process in use.
- < Less than the value shown.

After review of its analytical procedures for chlorinated hydrocarbon compounds in finfish tissue, MDOEP published revised Detection Limits (ppm or ug/kg) for the following compounds:

Chlordane	0.01
DDD	0.04
DDE	0.07
DDT	0.02
alpha-BHC, gamma-BHC (lindane)	0.002
hexachlorobenzene	0.007
Dieldrin, Endosulfan, Heptachlor	0.004
Endrin, Heptachlor epoxide	0.003
Aldrin	0.23
Toxaphene	0.10
Methoxychlor	

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

APPENDIX A5

**Reference Concentrations for Carcinogens
and Systemic Toxicants**

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A5 Reference Concentrations for Carcinogens,
Based on the Following Assumptions:

Amount of fish eaten (kg/d): 0.0065
 Amount of water drunk (l/d): 2.0
 Amount of air breathed (m3/d): 20
 Average mass of a person (kg): 70
 Cancer risk reference level: 0.00000100

Chemical	Fish mg/kg	Water ug/l	Air ug/m3
Aflatoxin B1	0.00000371	0.00001207	
Aldrin	0.00094467	0.00307018	
Arsenic and Compounds	0.00071795	0.00233333	0.00007000
Benzene	0.20710059	0.67307692	0.13461538
Benzidine	0.00004682	0.00015217	0.00001522
Benzo(a)pyrene	0.00093645	0.00304348	0.00057377
Bis(2-chloroethyl)ether	0.00979021	0.03181818	
Carbon Tetrachloride	0.08284024	0.26923077	
Chlordane	0.00668896	0.02173913	
Chloroform	0.13295347	0.43209877	
DDT	0.03167421	0.10294118	
Dibutylnitrosamine	0.00199430	0.00648148	
3,3*-Dichlorobenzidine	0.00633484	0.02058824	
1,2-Dichloroethane (EDC)	0.11834320	0.38461538	0.10000000
1,1-Dichloroethylene	0.01856764	0.06034483	0.00301724
Dichloromethane	1.43589744	4.66666667	0.24475524
Dieldrin	0.00035897	0.00116667	
Bis(2-ethylhexyl)phthalate (DEHP)	15.74448943	51.16959064	
Diethylnitrosamine	0.00024476	0.00079545	
Dimethylnitrosamine	0.00041420	0.00134615	
2,4-Dinitrotoluene	0.03473945	0.11290323	
1,2-Diphenylhydrazine	0.01398601	0.04545455	
Epichlorohydrin	10.87801088	35.35353535	
1-Ethyl-nitrosourea	0.00032634	0.00106061	
Ethylene Dibromide (EDB)	0.00026266	0.00085366	
Heptachlor	0.00316742	0.01029412	
Heptachlor Epoxide	0.00414201	0.01346154	
Hexachlorobenzene	0.00637233	0.02071006	
Hexachlorobutadiene	1.38957816	4.51612903	
beta-HCCH	0.00598291	0.01944444	
alpha-Hexachlorocyclohexane (HCCH)	0.00097902	0.00318182	
Methylnitrosourea	0.00003590	0.00011667	
n-Nitrosodiphenylamine	2.19780220	7.14285714	
N-Nitrosopyrrolidine	0.00512821	0.01666667	
Polychlorinated Biphenyls (PCBs)	0.00248139	0.00806452	
Polynuclear Aromatic Hydrocarbons	0.00093645	0.00304348	0.00057283
2,3,7,8-TCDD (Dioxin)	0.00000007	0.00000022	

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A5, continued

Reference Concentrations for Carcinogens

Chemical	Fish mg/kg	Water ug/l	Air ug/m3
Technical-HCCH	0.00226721	0.00736842	
1,1,2,2-Tetrachloroethane	0.05384615	0.17500000	
Tetrachloroethylene	0.21116139	0.68627451	2.05882353
Toxaphene	0.00979021	0.03181818	
1,1,2-Trichloroethane	0.18794469	0.61082024	
Trichloroethylene	0.97902098	3.18181818	0.76086957
2,4,6-Trichlorophenol	0.54390054	1.76767677	
Vinyl Chloride	0.00468227	0.01521739	0.14000000

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A5, continued

Reference Concentrations for Systemic Toxicants, Based on the Following Assumptions:

Amount of fish eaten (kg/d):	0.0065
Amount of water drunk (l/d):	2.0
Amount of air breathed (m3/d):	20
Average mass of a person (kg):	70
Safety factor (for screening):	1

Chemical	Fish mg/kg	Water ug/l	Air ug/m3
Acetone	1076.9230769	3500.0000000	10500.000000
Acrolein	861.53846154	2800.0000000	
Acrylic Acid	861.53846154	2800.0000000	
Alachlor	107.69230769	350.0000000	
Aldicarb	107.69230769	350.0000000	
Aldrin	0.32307692	1.05000000	
Allyl Alcohol	53.84615385	175.0000000	
Aluminum Phosphide	4.30769231	14.00000000	
Antimony and Compounds	4.30769231	14.00000000	
Atrazine	37.69230769	122.50000000	
Barium and Compounds	549.23076923	1785.0000000	0.49000000
Barium Cyanide	753.84615385	2450.0000000	
Benefin	3230.7692308	10500.000000	
Beryllium and Compounds	5.38461538	17.50000000	
1,1-Biphenyl	538.46153846	1750.0000000	
Bromodichloromethane	21.53846154	70.00000000	
Bromomethane	4.30769231	14.00000000	
Bromoxynil Octanoate	323.07692308	1050.0000000	
n-Butanol	1076.9230769	3500.0000000	
Butylphthalyl Butylglycolate	10769.230769	35000.000000	
Cacodylic Acid	107.69230769	350.00000000	
Cadmium and Compounds	3.12307692	10.15000000	
Calcium Cyanide	430.76923077	1400.0000000	
Carbaryl	1076.9230769	3500.0000000	
Carbofuran	53.84615385	175.00000000	
Carbon Disulfide	1076.9230769	3500.0000000	
Chlordane	0.53846154	1.75000000	
Chlorobenzene	290.76923077	945.00000000	19.95000000
Chlorodibromomethane	215.38461538	700.00000000	
Chloroform	107.69230769	350.00000000	
Chromium III and Compounds	10769.230769	35000.000000	17.85000000
Chromium VI and Compounds	53.84615385	175.00000000	
Copper and Compounds	398.46153846	1295.0000000	35.00000000
Copper Cyanide	753.84615385	2450.0000000	
Cresol	538.46153846	1750.0000000	350.00000000

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A5, continued

Chemical	Fish mg/kg	Water ug/l	Air ug/m3
Crotonaldehyde	107.69230769	350.00000000	
Cyanazine	14.00000000	45.50000000	
Cyanides	215.38461538	700.00000000	
Cyanogen	430.76923077	1400.00000000	
Cyanogen Chloride	538.46153846	1750.00000000	
Dalapon	861.53846154	2800.00000000	
DDT	5.38461538	17.50000000	
Decabromodiphenyl Ether	107.69230769	350.00000000	
Dibutyl Phthalate	1076.9230769	3500.00000000	
Dichlorodifluoromethane	2153.8461539	7000.00000000	
1,1-Dichloroethane	1292.3076923	4200.00000000	483.00000000
1,1-Dichloroethylene	96.92307692	315.00000000	
Dichloromethane	646.15384615	2100.00000000	
2,4-Dichlorophenol	32.30769231	105.00000000	
4-(2,4-Dichlorophenoxy)butyric Acid (2	86.15384615	280.00000000	
2,4-Dichlorophenoxyacetic Acid (2,4-D)	107.69230769	350.00000000	
Diethyl Phthalate	140000.00000	455000.00000	
Diethylene Glycol, Monoethyl Ether	21538.461538	70000.000000	
Bis(2-ethylhexyl)phthalate (DEHP)	215.38461538	700.00000000	
Dimethoate	215.38461538	700.00000000	
Dimethyl Terephthalate	1076.9230769	3500.00000000	
2,4-Dinitrophenol	21.53846154	70.00000000	
Dinoseb	10.76923077	35.00000000	
Disulfoton	43.07692308	140.00000000	
Endosulfan	0.16153846	0.52500000	
Epichlorohydrin	21.53846154	70.00000000	
EPTC	269.23076923	875.00000000	
2-Ethoxyethanol	3876.9230769	12600.000000	175.00000000
Ethyl Acetate	9692.3076923	31500.000000	
Ethylbenzene	1076.9230769	3500.00000000	
Ethylene Glycol, Monobutyl Ether			56.00000000
Ethylphthalyl Ethyl Glycolate	32307.692308	105000.00000	
Fluorides	646.15384615	2100.00000000	

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A5, continued

Chemical	Fish mg/kg	Water ug/l	Air ug/m3
Fluoridone	861.53846154	2800.0000000	
Formic Acid	21538.461538	70000.000000	
Furan	10.76923077	35.00000000	
Heptachlor Epoxide	0.32307692	1.05000000	
Hexachlorobutadiene	21.53846154	70.00000000	
gamma-HCCH (Lindane)	3.23076923	10.50000000	
Hexachlorocyclopentadiene	75.38461538	245.00000000	0.23100000
Hydrogen Cyanide	215.38461538	700.00000000	
Hydrogen Sulfide	32.30769231	105.00000000	
Iron and Compounds			30.10000000
Isobutanol	3230.7692308	10500.000000	
Isophorone	2153.8461539	7000.0000000	
Isopropalin	323.07692308	1050.0000000	
Lead and Compounds (Inorganic)	15.07692308	49.00000000	1.50500000
Malathion	215.38461538	700.00000000	
Manganese and Compounds	2369.2307692	7700.0000000	1.05000000
Mercury and Compounds (Alkyl)	3.23076923	10.50000000	0.35000000
Mercury and Compounds (Inorganic)	21.53846154	70.00000000	0.17850000
Mercury Fulminate	32.30769231	105.00000000	
Methanol	5384.6153846	17500.000000	
2-Methoxyethanol			84.00000000
2(2-Methyl-4-Chlorophenoxy) Propionic	32.30769231	105.00000000	
Methyl Ethyl Ketone	538.46153846	1750.0000000	770.00000000
Methyl Ethyl Ketone Peroxide	86.15384615	280.00000000	
2-Methyl-4-chlorophenoxyacetic Acid	10.76923077	35.00000000	
Metolacolor (Dual)	161.53846154	525.00000000	
Metribuzin	269.23076923	875.00000000	
Nickel and Compounds	107.69230769	350.00000000	
Nickel Cyanide	215.38461538	700.00000000	
Nitrate	10769.230769	35000.000000	
Nitric Oxide	1076.9230769	3500.0000000	
Nitrite	1076.9230769	3500.0000000	
Nitrobenzene	5.38461538	17.50000000	
Nitrogen Dioxide	10769.230769	35000.000000	
Osmium Tetroxide	0.10769231	0.35000000	
Pentachlorobenzene	8.61538462	28.00000000	
Pentachloronitrobenzene	86.15384615	280.00000000	
Pentachlorophenol	323.07692308	1050.0000000	
Phenol	1076.9230769	3500.0000000	70.00000000
Phenyl Mercuric Acetate	0.86153846	2.80000000	
m-Phenylenediamine	64.61538462	210.00000000	
Phosphine	3.23076923	10.50000000	
Potassium Cyanide	538.46153846	1750.0000000	
Potassium Silver Cyanide	2153.8461539	7000.0000000	
Propylene Glycol, Monoethyl Ether	7323.0769231	23800.000000	

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A5, continued

Chemical	Fish mg/kg	Water ug/l	Air ug/m3
Propylene Glycol, Monomethyl Ether	7323.0769231	23800.000000	1715.0000000
Pyridine	21.53846154	70.00000000	
Selenious Acid	32.30769231	105.00000000	
Selenium and Compounds	32.30769231	105.00000000	3.50000000
Selenourea	53.84615385	175.00000000	
Silver and Compounds	32.30769231	105.00000000	
Silver Cyanide	1076.9230769	3500.000000	
Simazine	53.84615385	175.00000000	
Sodium Cyanide	430.76923077	1400.000000	
Sodium Diethyldithiocarbamate	323.07692308	1050.000000	
Strychnine	3.23076923	10.50000000	
Styrene	2153.8461539	7000.000000	
1,2,4,5-Tetrachlorobenzene	3.23076923	10.50000000	
1,1,1,2-Tetrachloroethane	323.07692308	1050.000000	
Tetrachloroethylene	215.38461538	700.00000000	
2,3,4,6-Tetrachlorophenol	107.69230769	350.00000000	
Tetraethyl Lead	0.00107692	0.00350000	
2,3,5,6-Tetrachloroterephthalate (DCPA)	538.46153846	1750.000000	
Thallic Oxide	4.30769231	14.00000000	
Thallium Acetate	5.38461538	17.50000000	
Thallium and Compounds	4.30769231	14.00000000	
Thallium Carbonate	4.30769231	14.00000000	
Thallium Chloride	5.38461538	17.50000000	
Thallium Nitrate	5.38461538	17.50000000	
Thallium Selenite	5.81538462	18.90000000	
Thallium Sulfate	5.38461538	17.50000000	
Toluene	3230.7692308	10500.000000	5250.0000000
Tribromomethane (Bromoform)	215.38461538	700.00000000	
1,1,2-Trichloro-1,2,2,-trifluoroethane	323076.92308	1050000.0000	
1,2,4-Trichlorobenzene	215.38461538	700.00000000	
1,1,1-Trichloroethane	5815.3846154	18900.000000	22050.000000
Trichloromonofluoromethane	3230.7692308	10500.000000	
2,4,5-Trichlorophenol	1076.9230769	3500.000000	
2,4,5-Trichlorophenoxyacetic Acid	323.07692308	1050.000000	
1,2,3-Trichloropropane	1076.9230769	3500.000000	
Trifluralin	32.30769231	105.00000000	
Trinitrotoluene (TNT)	2.15384615	7.00000000	
Vanadium Pentoxide	215.38461538	700.00000000	
Warfarin	3.23076923	10.50000000	
m-Xylene	107.69230769	350.00000000	700.00000000
o-Xylene	107.69230769	350.00000000	700.00000000
Xylene (mixed)	107.69230769	350.00000000	1400.00000000
Zinc and Compounds	2261.5384615	7350.000000	35.00000000
Zinc Cyanide	538.46153846	1750.000000	
Zinc Phosphide	3.23076923	10.50000000	
Zineb	538.46153846	1750.000000	

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

APPENDIX A6

Water Quality Standards and Criteria for Toxic Chemicals

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
A6. WATER QUALITY STANDARDS AND CRITERIA FOR TOXIC CHEMICALS

Water Quality Act of 1987

The Water Quality Act of 1987, which was enacted on February 4, 1987 by the 100th Congress, represents the first comprehensive amendments to the Federal Water Pollution Control Act of 1972. The Water Quality Act of 1987 transfers new authorities from the federal government to State and local governments and provides statutory flexibility necessary to implement its provisions. An important aspect of the Water Quality Act of 1987 is:

The control of toxic pollutants in point discharges, even after technology-based and water-quality-based treatment requirements have been met.

Section 308 of the Water Quality Act addresses the problem of toxic pollutants and requires the states to respond:

1) Individual Control Strategies for Toxic Pollutants

Not later than 2 years after enactment, each State shall submit:

a) a list of waters within the State which, after application of Best Available Technology for treatment of toxic pollutants, do not meet water quality standards or the requirement to protect public health or a balanced population of fish and wildlife.

b) a list of navigable waters for which the State does not expect the applicable standard (under Section 303) will be achieved after effluent limitations are met, due to discharges from point source of any toxic pollutants on the priority pollutants list (Section 307a).

c) for each segment of navigable waters identified, a determination of specific point sources discharging any toxic pollutant believed to be impairing water quality and the amount of each such toxic pollutant discharged by each source.

d) development of individual control strategies to produce a reduction in the discharge of toxic pollutants from point sources identified by the State, through the establishment of effluent limitations (NPDES permits) and water quality standards, as soon as possible, but not later than 3 years after the date of establishing the strategy. If the State does not submit an acceptable point source strategy, EPA must adopt one on behalf of the State.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
A6. WATER QUALITY STANDARDS AND CRITERIA FOR TOXIC CHEMICALS

2) Water Quality Criteria for Toxic Pollutants

Whenever a state reviews water quality standards or revises or adopts standards, it shall adopt numerical criteria for all priority toxic pollutants listed under Section 307(a)(1) for which criteria have been published by EPA. Where such criteria are not available, whenever a state reviews or revises existing standards or adopts new standards, the state shall adopt criteria based on biological monitoring or assessment methods. This requirement may not delay permit issuance.

Water Quality Standards of Potomac Basin States

Each of the Potomac basin states (Virginia, Pennsylvania, Maryland, West Virginia) and the District of Columbia has adopted similar general water quality standards or criteria (see Tables A6.1 and A6.2). These general criteria prohibit the presence of substances in waters in concentrations that interfere with beneficial water uses or that are harmful to human health or aquatic life. The pollution of waters with substances attributable to sewage, industrial waste or other wastes in amounts that exceed established standards, interfere with beneficial uses of water, or present a danger to human health or aquatic life is also prohibited. Specific substances to be controlled include floating debris, oil, grease, scum, sludge and other floating materials, as well as substances that produce color, tastes, turbidity, odors or that settle to form sludge deposits. Virginia and Maryland include toxic substances in this list, while Pennsylvania lists "toxic substances, pesticides, chlorinated hydrocarbons, carcinogenic, mutagenic, and teratogenic materials". In all Potomac basin states, the standards and criteria apply for stream flows that are greater than the lowest 7 consecutive-day flow that occurs once in 10 years (7Q10). In addition, water quality criteria apply only outside designated mixing zones, which are to be determined according to given guidelines. In Maryland, the criteria apply in tidal waters at all times.

Virginia

The following state regulations were published by The Virginia Water Control Board in its June, 1986 Water Quality Standards.

Anti-degradation Policy

Waters whose existing quality is better than the established standards will be maintained at high quality. Where high

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
A6. WATER QUALITY STANDARDS AND CRITERIA FOR TOXIC CHEMICALS

quality waters constitute an outstanding resource (national and state parks, wildlife refuges and waters of exceptional recreational or ecological significance), that water quality shall be maintained and protected to prevent degradation or impairment of beneficial uses of the water.

Water Quality Criteria and Standards

Water quality criteria, like standards, describe a desired level of water quality that, when not exceeded, should generally protect the water environment for aquatic life and reasonable beneficial uses with an adequate degree of safety. However, Virginia Water Control Board standards are mandatory, while criteria are not. The only standards that Virginia has set for toxic chemicals are for Mercury in water, fish, and sediments. Criteria are considered in drafting permits to determine the potential water quality effects of a discharge and to establish effluent limitations. Alternate criteria can be proposed if water quality conditions or local aquatic organisms differ significantly from those used as a basis in establishing the criteria. Virginia water quality criteria and standards for organic and inorganic parameters are given in Tables A6.1 and A6.2, respectively.

Water Standards for Surface Public Water Supplies

In addition to other water quality standards, Virginia has adopted Safe Drinking Water Act standards for some toxic constituents that apply at the water intake (SDWA standards are designed for treated drinking water). Regulated chemicals include: Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Phenols, Zinc, Endrin, Lindane, Methoxychlor, Toxaphene, 2,4-D, and Silvex.

The Virginia Water Control Board adopted the following Toxics Management Standard (VR 680-14-03) in March, 1988:

when an NPDES permit for discharges to surface waters is issued, reissued, or modified, the discharger is required to provide biological and chemical monitoring of the effluent for compounds referenced under Section 307(a) of the Act.

This standard applies to industrial dischargers that have specified Standard Industrial Classification (SIC) codes, that have wastewater flows greater than or equal to 50,000 gallons per day, and Publicly Owned Wastewater Treatment Works (POTW's) with flow greater than or equal to one million gallons per day.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
A6. WATER QUALITY STANDARDS AND CRITERIA FOR TOXIC CHEMICALS

At the time of this writing, the Virginia State Water Control Board is considering amendments to the state water quality standards for toxic pollutants. Three options are being considered:

- 1) adopt statewide numeric water quality standards for all EPA criteria for Section 307(a) toxic pollutants regardless of whether the pollutants are known to be present;
- 2) adopt numeric water quality standards for all EPA criteria for Section 307(a) toxic pollutants as necessary to support designated uses and where specific toxics have been identified;
- 3) adopt a procedure, to be used in calculating derived numeric standards and, applied to a narrative water quality standard as necessary to support designated uses where specific toxics have been identified.

The EPA has recommends that the second option most directly satisfies the new Clean Water Act requirements.

Effluent Toxicity Criteria

The effluent shall be considered to be non-toxic if the following decision criteria are true:

- 1) LC50 > 100 per cent
- 2) No-observed Effect Concentration (NOEC) > Instream waste concentration (IWC)
- 3) No instream exceedance of water quality standards or criteria for protection of aquatic life or human health.

If a discharge is determined to be toxic, the permittee must develop a toxicity reduction plan. If the plan is found to be inadequate and the permittee does not submit an acceptable plan, the Board shall find the permittee in violation of the NPDES permit or No-Discharge certificate and impose a toxicity reduction schedule. Upon approval of the plan, the NPDES permit or No-Discharge certificate shall be modified to include any applicable water quality based limitations and a compliance schedule.

Compliance monitoring is required for every discharge of wastewater which has not exhibited actual or potential toxicity, as determined above, in order to demonstrate continued compliance with the toxicity criteria. Compliance monitoring includes annual acute and chronic toxicity tests using the most sensitive naturally occurring aquatic species.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
A6. WATER QUALITY STANDARDS AND CRITERIA FOR TOXIC CHEMICALS

Water quality based effluent limitations shall be established whenever necessary to ensure that effluents meet the toxicity decision criteria. Water quality based limitations may be developed, or toxicity tests may be used to determine safe levels of toxic pollutants for which standards or criteria do not exist but whose impacts were identified during monitoring.

Pennsylvania

Water Quality Criteria and Standards

Water uses and habitat types are considered in determining the water quality criteria applicable to the waters of Pennsylvania. Potomac River waters have been designated as follows: CWF (Cold Water Fishes), WWF (Warm Water Fishes), HQ (High Quality Waters), EV (Exceptional Value Waters), and TSF (Trout Stocking). No Potomac River tributaries were designated as potable water supplies. The statewide specific water quality criteria are given in Tables A6.1 and A6.2.

Water quality criteria are defined as levels of parameters or stream conditions that need to be maintained or attained to prevent or eliminate pollution. Water quality Standards apply to the combination of water uses to be protected and represent the water quality criteria necessary to protect those uses.

Toxics Criteria for Effluents

The water quality criteria apply to receiving waters and are not necessarily used as effluent limitations but as one of the major factors to be considered in developing specific limitations on the discharge of pollutants. If water quality criteria become the controlling factor in developing specific effluent limitations, the procedures relating to waste load allocations (Sec 95.3) will be employed. If adopted water quality criteria are more stringent than ambient stream concentrations of specific water quality indicators, the ambient concentrations shall be the applicable criteria used to establish specific effluent limits. (Ambient stream concentration is defined as the range in concentration or level of a water quality parameter which would be expected to occur in the absence of human activities. The value is normally determined from quality measurements of waters that are not affected by waste discharges or other human activities.)

Pennsylvania also uses water quality criteria for the priority pollutants contained in Table C-2 of its Toxic Management Strategies in determining permitted effluent limits. When a

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
A6. WATER QUALITY STANDARDS AND CRITERIA FOR TOXIC CHEMICALS

specific water quality criterion has not been established for a pollutant, and discharge of a pollutant into waters designated to be protected for aquatic life is proposed, a specific water quality criterion for the pollutant may be determined through the establishment of a safe concentration value. The safe concentration value is based upon data obtained in relevant aquatic field studies, continuous flow bioassay test data in the literature, or actual bioassay tests. If there is insufficient data to establish a safe concentration value for a pollutant, the safe concentration value will be determined by applying the appropriate application factor to the 96-hour LC50 value. Application factors are the following:

- 1) 0.05 of the 96-hour LC50 for noncumulative pollutants
- 2) 0.01 of the 96-hour LC50 for cumulative pollutants
- 3) Concentrations of pollutants with known synergistic or antagonistic effects with pollutants in the effluent or receiving water are established on a case-by-case basis using available data.

Bioassay tests performed to establish safe concentrations for the permitted discharge of a pollutant under the Clean Streams Law and U.S.C. Sec.1342 must be conducted according to published EPA guidelines, with submission of a complete report to the State.

Maryland

In the Code of Maryland Regulations 10.50.01, water quality criteria for conventional pollutants are set for waters based upon designated uses, including water contact recreation, aquatic life habitat, water supply, shellfish harvesting, and natural and stocked trout streams.

Water Quality Criteria and Standards

Water quality criteria are defined as "numerical and descriptive limits designed to protect designated uses of the waters of this State by controlling concentrations of water constituents".

The toxic materials criteria, which were developed to protect freshwater and saltwater aquatic life or human health, may not be exceeded in any waters of the State. They are presented in Tables A6.1 and A6.2.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
A6. WATER QUALITY STANDARDS AND CRITERIA FOR TOXIC CHEMICALS

Toxic Criteria for Effluents

The discharge of any waters in excess of 10,000 gallons per day, as a monthly average is prohibited. The discharge of any pollutant in toxic amounts is prohibited. This limitation applies to substances that accumulate to toxic amounts during the expected life of organisms in surface water, substances that produce deleterious behavioral effects on organisms, and the discharge of any radiological, chemical, or biological warfare agent.

The State of Maryland Department of the Environment issues permits satisfying the regulatory requirements of the National Pollutant Discharge Elimination System (NPDES). Maryland defines separate storm sewers as point sources subject to the NPDES permit program. The discharge of waters, wastes, or wastewaters to State waters is permitted if the discharge does not exceed the surface water quality standards established by Maryland to protect legitimate beneficial water uses. The discharge must comply with permit requirements for effluent limitations, schedules of compliance, and the use of practicable control technology.

West Virginia

Antidegradation Policy

Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected. Waste assimilation and transport are not recognized as designated uses. Uses are considered attainable if they can be achieved by the imposition of effluent limits required under Sections 301(b) and 306 of the Clean Water Act.

Water Quality Criteria and Standards

West Virginia has developed 5 water use categories; ranging from waters that are used for human consumption after conventional treatment, to industrial water supply. Water quality standards and criteria for many toxic parameters have been adopted by West Virginia in order to support these water use categories. Water quality criteria for water use categories are presented in Tables A6.1 and A6.2.

Water quality criteria are defined as mean levels of parameters or stream conditions that are to be maintained by the regulations. Water quality standards are the combination of water uses to be protected and the water quality criteria to be maintained by these rules.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
A6. WATER QUALITY STANDARDS AND CRITERIA FOR TOXIC CHEMICALS

Each segment extending upstream from the intake of a public water supply for a distance of five miles or to the headwater must be protected by prohibiting the discharge of any pollutants in excess of the concentrations designated for Water Use Category A.

Turkey Run, a small tributary of Opequon Creek of the Potomac River, is exempted from Category A and therefore may contain cyanide (as free HCN + CN) not to exceed 50 ug/l, and hexavalent chromium (total) not to exceed 100 ug/l.

Water quality criteria for organics are presented in Table A6.2. Criteria for toxic organic chemicals apply for all use designations. If the specified criteria for organics is less than the practical laboratory detection level, instream values will be calculated from discharge concentrations and flow rates and from fish body burden.

If a water quality standard has not been established, and there is a discharge or proposed discharge into Category B or B2 waters, the discharge may be regulated by establishing a safe concentration value. The safe concentration value shall be based upon data obtained from relevant aquatic field studies, standard bioassay test data in the scientific literature, or data obtained from tests utilizing representative important species of aquatic life.

If there is insufficient data to establish a safe concentration value for a pollutant, the safe concentration value is determined by applying the appropriate application factor (listed below) to the 96-hour LC50 value.

- 1) Concentrations of pollutants or combinations of pollutants that are not persistent and not cumulative shall not exceed 0.10 of the 96-hour LC50
- 2) Concentrations of pollutants or combinations of pollutants that are persistent or cumulative shall not exceed 0.01 of the 96-hour LC50.

Toxics Criteria for Effluents

Permits for pollutant discharge may be sought on the basis of a safe concentration value established using special bioassay tests as approved by the Chief of the Water Resources Board.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
A6. WATER QUALITY STANDARDS AND CRITERIA FOR TOXIC CHEMICALS

District of Columbia

The District of Columbia Department of Consumer and Regulatory Affairs administers the water quality regulations for the waters of the District. The water quality standards are published in Chapter 11 Title 21 DCMR. It is the declared public policy of the District of Columbia to conserve and protect, and maintain and improve the quality of the waters of the District as a resource of multiple beneficial uses. Seven classes of beneficial use have been adopted. All waters of the District have been assigned Maintenance (present) and Restoration (future) use classes to be met.

Rock Creek and its tributaries, and Battery Kemble Creek and its tributaries have been designated antidegradation segments within the waters of the District. For such segments, increases in loadings or new pollutants from existing point source discharges are prohibited.

Water Quality Criteria and Standards

Verbal standards apply to all point and nonpoint source discharges. These standards prohibit: objectionable deposits, odor, color, taste, or turbidity; floating matter; injurious effects on living things; and the introduction of undesirable species. Numerical standards deemed necessary to sustain the assigned use classes are presented in Tables A6.1 and A6.2. Waters protected for wildlife are subject to a guideline value of ten percent of the 96 hour LC50 for affected biota for short term exposure.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A6.1 Water Quality Criteria and Standards for Inorganic Parameters

<u>Parameter</u>	<u>WV</u>	<u>VA</u>	<u>PA</u>	<u>DC</u>
Antimony			145	
Arsenic	50(A) 100(D)	50pws	50	90(c) 0.002pws
As+++ inorganic	440(BC)	190 36 ^s		
Barium	1000(A)	1000pws		1000pws
Beryllium	0.117(B2B13) .0068(A)		0.068	
Cadmium (soluble)				
<u>Hardness</u>				
0-35	1(A)			
36-75	2(A)			
76-150	5(A)			
>150	10(A)			
<75	0.4(B2)			
>75	1.2(B2)			
Cadmium (total recoverable)		10pws 9.3 ^s	10	e1(c) 10pws
<u>Hardness</u>				
0-25	3(B13C)	e1		
26-50	6(B13C)			
51-75	8(B13C)			
76-100	11(B13C)			
101-150	17(B13C)			
151-200	23(B13C)			
201-300	36(B13C)			
301-400	49(B13C)			
Chlorine (Total Residual)				10(c)
Chromium (+6)	50(A) 10(B13) 7.2(B2)	11	50	10(c) 50pws

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A6.1 Water Quality Criteria and Standards for Inorganic Parameters

Parameter	WV	VA	PA	DC
Chromium (total)		50pws 50 ^s		
Copper	1000(A)	1000pws	1000	
(total recoverable)		2.9 ^s		e2(c) 1.0pws
<u>Hardness</u>				
50	6(B)	e2		
100	11(B)			
200	20(B)			
300	29(B)			
400	38(B)			
500	46(B)			
600	55(B)			
700	63(B)			
Cyanide (as free HCN + CN-)	5(ABC)	5.2 1 ^s	200	3(c) 200pws
Iron (total)				1000(c)
Lead	50(A)	50pws 5.6 ^s	50	
<u>Hardness</u>				
50	1(B)	e4		e3(c)
100	3.8(B)			
200	200(B)			
300	50(B)			
400	100(B)			
500	168(B)			
600	258(B)			
700	371(B)			
Mercury FISH (total body burden-ug/g)	0.5(B)			

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A6.1 Water Quality Criteria and Standards for Inorganic Parameters

Parameter	WV	VA	PA	DC
Methyl Mercury		0.75*		
SEDIMENTS		300*		
WATER				
(total unfiltered)	0.2(ABC)	2 ^{pws} 0.1 ^s		
(total recoverable)		.05*	0.144	0.012(c) 0.1pws
Methyl Mercury		0.01*		
NH3 (un-ionized, as N)				20(c)
Nickel	50(B2)		632	
Selenium				
(total recoverable)	10(A)		10	40(c) 10pws
(as Selinite)	35(B2,B13)			
Silver			50	
<u>Hardness</u>				
0-50	1(ACB13)			
51-100	4(ACB13)			
101-200	12(ACB13)			
> 200	24(AC)			
201-400	24(B13)			
401-500	30(B13)			
501-600	43(B13)			
Zinc	47(B2)	500 ^{pws} 58 ^s	5000	50 500pws
<u>Hardness</u>				
0-150	50(C)			
151-300	100(C)			
301-400	300(C)			
>401	600(C)			

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A6.1 Water Quality Criteria and Standards for Inorganic Parameters

Parameter	WV	VA	PA	DC
<u>Hardness</u>				
0-50	40(B13)			
51-80	75(B13)			
81-120	90(B13)			
121-160	110(B13)			
161-200	130(B13)			
201-240	150(B13)			
241-280	175(B13)			
281-300	220(B13)			
301-320	270(B13)			
321-340	320(B13)			
341-400	370(B13)			
>401	600(B13)			

Notes:-

Maryland has no standards for metals.

West Virginia Water Use Categories include the following:

Category A- Water Supply, including waters that are used for human consumption after conventional treatment. Includes community, non-community, and private domestic water supply systems.

Category B- For propagation and maintenance of fish and other aquatic life.

B1- Warm Water Fishery Streams

B2- Trout Waters (Exceptions do not apply to this category)

B3- Small Non-fishable Streams

Category C- Water contact recreation including swimming, fishing, water skiing and pleasure boating.

Category D- Agriculture and wildlife uses including irrigation, livestock watering, and streams used by wildlife.

Category E- Industrial Water Supply

Hardness is expressed as mg/l CaCO₃

Turkey Run, a small tributary of Opequon Creek of the Potomac River in West Virginia, is exempted from Category A, and therefore may contain Cyanide (as free HCN + CN) not to exceed 50 ug/l, and Hexavalent Chromium (total) not to exceed 100 ug/l.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table A6.1 Water Quality Criteria and Standards for Inorganic Parameters

Parameter	WV	VA	PA	DC
Virginia standards (except as noted for Mercury and pws) represent water quality criteria for the protection of aquatic life, which are not mandatory but are considered in granting discharge permits.				
Values listed for Pennsylvania are chosen for the protection of human health				
District of Columbia water use category (c) waters shall be protected for aquatic life, waterfowl, shore birds and water oriented wildlife.				
* Mercury standards in Virginia are mandatory; units for fish tissue and sediments are ug/g.				
s Criteria for saltwater.				
PWS Standards that apply to surface water at public water supply intakes (mandatory in Virginia and the District of Columbia).				
e1	$e^{0.7852(\ln(\text{hrdns})) - 3.490}$			
e2	$e^{0.8545(\ln(\text{hrdns})) - 1.465}$			
e3	$e^{1.2730(\ln(\text{hrdns})) - 4.705}$			
e4	$e^{1.266(\ln(\text{hrdns})) - 4.661}$			

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table 6.2 Water Quality Criteria/Standards for Toxic Organic Parameters

Parameter	Media	DC	MD	VA	WV	PA
Acenaphthene	w	50.0				20.0
	pws	20.0				
Acenaphthylene	w					0.028 *
Acrolein	w	10.0				320.0
	pws	300.0				
Acrylonitrile	w	700.0				0.58 *
	pws	0.06				
Aldrin	w	0.4		0.03		0.00074*
	pws	0.00007				
	sw			0.003		
Aldrin-Dieldrin	w		0.003		0.0019	
	f				0.3	
Anthracene	w					0.028 *
Benzene	w	1,000.0				12.0*
	pws	0.8				
Benzidine	w	250.0	0.1			0.0012*
	pws	0.0001				
Benzo(a)anthracene	w					0.028 *
Benzo(k)fluoranthene	w					0.028 *
3,4-Benzofluoranthene	w					0.028 *
Benzo(ghi)perylene	w					0.028 *
Benzo(a)pyrene	w					0.028 *
BHC-alpha	w					0.092 *
BHC-beta	w					0.163 *
BHC-gamma (Lindane)	w			0.08		0.186 *
	pws			4.0		
	sw			0.0016		
BHC-delta	w					NA
Bromoform	w					1.9 *

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table 6.2 Water Quality Criteria/Standards for Toxic Organic Parameters

Parameter	Media	DC	MD	VA	WV	PA
4-Bromophenyl Phenyl Ether	w					NA
Butylbenzyl Phthalate	w					932
Carbon Tetrachloride	w	1,000.0				2.7 *
	pws	0.4				
Chlordane	w	0.0043		0.0043	0.0043	0.0046 *
	pws	0.005				
	sw			0.004		
	f				1.0	
Chlorinated Phenols (except penta)	w	3.0				
	pws	0.04				
Chloroalkyl Ethers	w	1000.0				
	pws	0.0				
Chlorobenzene	w	25.0				20
	pws	20.0				
p-Chloro-m-Cresol	w					3000
Chlorodibromomethane	w					1.9 *
Chloroethane	w	50.0				NA
	pws	1.0				
Bis (2-chloroethoxy) Methane	w					26
Bis (2-chloroethyl) Ether			w			0.3 *
Chloroethyl Vinyl Ether			w			100
Chloroform	w	3000.0				1.9 *
	pws	0.2				
Bis (2-chloro- isopropyl) Ether	w					34.7
2-Chloronaphthalene	w	200.0				354
2-Chlorophenol	w	100.0				5 *
	pws	0.1				

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table 6.2 Water Quality Criteria/Standards for Toxic Organic Parameters

Parameter	Media	DC	MD	VA	WV	PA
4-Chlorophenyl Phenyl Ether	w					NA
Chrysene	w					0.028 *
Cyanide, Free	w					200
DDT	w pws f	0.001 0.0	0.001	0.001	0.001 0.1	
2,4-D	pws			100.0		
4,4'-DDT	w			0.001		0.00024*
4,4'-DDE	w					NA
4,4'-DDD	w					NA
Demeton	w			0.1		
Dibenzo(a,h) anthracene	w					0.028 *
1,2-Dichlorobenzene	w pws	200.0 400.0				400
1,3-Dichlorobenzene	w pws	200.0 400.0				400
1,4-Dichlorobenzene	w pws	200.0 400.0				400
3,3-Dichlorobenzidine	w pws	10.0 0.01				0.10 *
Dichlorobromomethane	w					1.9 *
1,1-Dichloroethane	w					290
1,2-Dichloroethane	w					3.8 *
1,1-Dichloroethylene	w pws	1000.0 0.03				0.59 *
2,4-Dichlorophenol	w pws	200.0 0.3				0.3

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table 6.2 Water Quality Criteria/Standards for Toxic Organic Parameters

Parameter	Media	DC	MD	VA	WV	PA
1,2-Dichloropropane	w	2000.0				350
	pws	400.0				
Dichloropropene	w	400.0				
	pws	80.0				
1,3-Dichloropropylene	w					87
Dieldrin	w	0.0019		0.0019		0.00071*
	pws	0.00007				
Diethyl Phthalate	w					350,000
2,4-Dimethylphenol	w	200.0				400
	pws	400.0				
Dimethyl Phthalate	w					313,000
Di-n-butyl Phthalate	w					34,000
4,6-Dinitro-o-cresol	w					13.4
2,4-Dinitrophenol	w					70
2,4-Dinitrotoluene	w	33.0				1.1 *
	pws	0.1				
2,6-Dinitrotoluene	w	33.0				71
	pws	0.1				
Di-n-octyl Phthalate	w					NA
1,2-Diphenylhydrazine	w	30.0				0.42 *
	pws	0.04				
Endosulfan	w	0.01		0.056		
	pws	75.0				
	sw			0.0087		
Endosulfan-alpha	w					74
Endosulfan-beta	w					74
Endosulfan Sulfate	w					NA *
Endrin	w	0.0023	0.004	0.0023	0.0023	*
	pws	1.0		0.2		
	f				0.3	

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table 6.2 Water Quality Criteria/Standards for Toxic Organic Parameters

Parameter	Media	DC	MD	VA	WV	PA
Endrin Aldehyde	w					NA
Ethylbenzene	w	40.0				1400
	pws	1400.0				
Bis (2-ethylhexyl) Phthalate	w					15,000
Fluoranthene	w	400.0				42
	pws	40.0				
Fluorene	w					0.028 *
Guthion	w			0.01		
Haloethers	w	40.0				
Halomethanes	w	1000.0				
	pws	0.2				
Heptachlor	w	0.0038		0.0038		0.0028
	pws	0.0003				
	sw			0.0036		
Heptachlor Epoxide						NA
Hexachlorobenzene	w					0.0072 *
Hexachlorobutadiene	w	10.0				4.5 *
	pws	0.5				
Hexachlorocyclo- hexane	w	0.08				
	pws	0.01				
Hexachlorocyclo- pentadiene	w	0.5				1
	pws	1.0				
Hexachloroethane	w					19 *
Hydrogen Sulfide	w			2		
Indeno(1,2,3- cd)pyrene	w					0.028 *
Isophorone	w	1000.0				5200
	pws	5200.0				

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table 6.2 Water Quality Criteria/Standards for Toxic Organic Parameters

Parameter	Media	DC	MD	VA	WV	PA
Kepone	w			0		
Malathion	w			0.1		
Methoxychlor	w pws			0.03 100.0	0.3	
Methyl Bromide	w					1.9 *
Methyl Chloride	w					1.9 *
Methylene Chloride	w					48 *
Mirex	w			0		
Naphthalene	w	600.0				10
Nitrobenzene	w pws	1000.0 30.0				30
2-Nitrophenol	w pws	20.0 13.0				5
4-Nitrophenol	w pws	20.0 13.0				99
Nitrosamines	w pws	600.0 0.001				
N-Nitrosodi- methylamine	w					0.014 *
N-Nitrosodi-N- propylamine	w					0.008 *
N-Nitrosodi- phenylamine	w					49 *
PCBs	w pws sw f	0.01 0.00008	0.001	0.014 0.03	0.001 2.0	0.00079*
Parathion	w			0.04		
Pentachlorophenol	w pws	7.0 30.0				30

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table 6.2 Water Quality Criteria/Standards for Toxic Organic Parameters

Parameter	Media	DC	MD	VA	WV	PA
Phenanthrene	w					0.028 *
Phenol	w	0.1		1.0		5 *
	pws	0.3				
Phenolics	w				0.005 ^a	
	pws					5.0
Phthlate Esters	w	100.0		3.0		
Polynuclear Aromatic Hydrocarbons	w	100.0				
	pws	0.003				
Pyrene	w					0.028 *
Silvex	pws			10.0		
2,3,7,8-TCDD	w					1.3x10 * E-7
1,1,2,2-Tetrachloroethane	w					1.7 *
Tetrachloroethylene	w	800.0				6.7 *
	pws	0.8				
Toluene	w	600.0				14,300
	pws	1000.0				
Toxaphene	w	0.01	0.005	0.013	0.005	0.0071 *
	pws	0.0007		5.0		
	sw			0.0007		
	f				1.0	
1,2,-trans-Dichloroethylene	w					70 *
1,2,4-Trichlorobenzene	w					120 *
1,1,1-Trichloroethane	w					1000
1,1,2-Trichloroethane	w					6 *
Trichloroethylene	w	1000.0				31 *
	pws	3.0				

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

Table 6.2 Water Quality Criteria/Standards for Toxic Organic Parameters

Parameter	Media	DC	MD	VA	WV	PA
2,4,6-Trichlorophenol	w					2 *
Vinyl Chloride	w					0.15 *

Note:-

Water quality standards for the District of Columbia are mandatory, and apply only to those waters classed for use as the protection of aquatic life and as raw water source for public water supply. Criteria and standards listed for Maryland and West Virginia are mandatory, and apply to all waters of those states. Virginia criteria, which are selected for the protection of aquatic life, and Pennsylvania criteria, which represent limits for the protection of human health, are considered in granting discharge permits.

^a Applicable to all water classes except recreational

w Standards applicable to all water classes except as otherwise indicated (ug/l)

pws Standards applicable to water protected for use as a raw water source for public water supply, or at public water supply intake (ug/l)

sw Standards applicable to salt water (ug/l)

f Standards applicable to fish tissue (mg/kg)

* Water quality criteria under review and subject to change

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
A6. WATER QUALITY STANDARDS AND CRITERIA FOR TOXIC CHEMICALS

Safe Drinking Water Act

After publication of a 1970 study indicating that a significant number of water supplies did not meet Public Health Service standards, the Safe Drinking Water Act (SDWA) of 1974 was passed by Congress. The act requires EPA to set interim primary drinking water regulations and to establish recommended maximum contaminant levels (RMCLs) for each contaminant that may have adverse health impacts. The RMCL is required to be set at a level at which no known or anticipated adverse effects on health occur, allowing an adequate margin of safety. The SDWA also requires the establishment of maximum contaminant levels (MCLs). MCL is the contaminant level that EPA believes to be attainable considering the availability of sophisticated analytical equipment and the status of treatment technology and cost.

The Safe Drinking Water Act Amendments of 1986 require EPA to develop MCLs and monitoring programs for 83 contaminants by 1989. While MCLs of some contaminants have been promulgated, increasing knowledge of adverse effects of pollutants, advanced pollutant analysis methods, and improved treatment technology have made modification of these limits necessary.

Development of an MCL includes the following steps:

- 1) Publish an Advanced Notice of Proposed Rulemaking (ANPRM).
- 2) Propose a Maximum Contaminant Level Goal (MCLG-equivalent to Recommended Maximum Contaminant Level), the highest concentration of a substance in drinking water at which no known or anticipated adverse effects to health occur and which allows an adequate margin of safety.
- 3) Declare MCL goal and propose MCL.
- 4) Declare MCL.

The MCL specified for primary drinking water standards are mandatory and enforceable at the federal level.

The 83 contaminants to be regulated by 1989 include 23 inorganic chemicals, 14 volatile organic chemicals, 35 synthetic organic chemicals, 5 microbiological contaminants, and 5 radionuclide contaminants. Under the 1986 amendments, EPA must regulate 25 more contaminants every three years after setting standards for the 83 contaminants in 1989.

Table A6.3 lists current standards and RMCLs established for 13 inorganic chemicals and for 49 organic chemicals that must be developed by June 1989.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
A6. WATER QUALITY STANDARDS AND CRITERIA FOR TOXIC CHEMICALS

Table A6.3
DRINKING WATER STANDARDS (mg/l) UNDER SAFE DRINKING WATER ACT AMENDMENTS

Contaminant	Current DW Stds MCL	Proposed Standard	Regulatory Status
INORGANIC COMPOUNDS (for which standards must be promulgated by 1988)			
Arsenic	0.05	0.05	Proposed MCLG
Barium	1	1.5	Proposed MCLG
Cadmium	0.01	0.005	Proposed MCLG
Chromium	0.05	0.12	Proposed MCLG
Copper	1	1.3	Proposed MCLG
Fluoride		4 2	Primary Drinking Water Secondary Drinking Water
Lead *	0.05	0.02	Proposed MCLG
Mercury	0.002	0.003	Proposed MCLG
Nickel	-	-	ANPRM
Nitrate (as N)	10	10	Proposed MCL
Selenium	0.01	0.045	Proposed MCLG
Silver	0.05	-	ANPRM
Zinc **	5 (Sec DWS)	-	ANPRM
Cyanide		-	ANPRM

(Inorganic chemicals for which standards must be developed by 1989 include: Aluminum, Antimony, Molybdenum, Asbestos, Sulfate, Copper, Vanadium, Sodium, Tellurium, Beryllium)

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
A6. WATER QUALITY STANDARDS AND CRITERIA FOR TOXIC CHEMICALS

Table A6.3 (continued)
DRINKING WATER STANDARDS (mg/l) UNDER SAFE DRINKING WATER ACT AMENDMENTS

Contaminant	Current DW Stds MCL	Proposed Standard	Regulatory Status
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VOLATILE ORGANIC COMPOUNDS
(Primary Drinking Water Standards Promulgated by 1988)

1,1,1-Trichloroethane	0.2	0.2	RMCL
1,1-Dichloroethylene	0.007	0.007	RMCL
1,2-Dichloroethane	0.005	0	RMCL
Benzene	0.005	0	RMCL
Carbon Tetrachloride	0.005	0	RMCL
Vinyl Chloride	0.002 0.001	0	RMCL
Trichloroethylene	0.005	0	RMCL
p-Dichlorobenzene	0.075 0.75	0.75	RMCL
Tetrachloroethylene		0	Proposed MCLG

(Primary Drinking Water Standards by 1989)

cis-1,2-Dichloroethylene			0.07 Proposed MCLG
Methylene Chloride		-	ANPRM
o-Dichlorobenzene		0.62	Proposed MCL
trans-1,2-Dichloroethylene		0.07	Proposed MCLG
Trichlorobenzenes		-	ANPRM

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
A6. WATER QUALITY STANDARDS AND CRITERIA FOR TOXIC CHEMICALS

Table A6.3 (continued)
DRINKING WATER STANDARDS (mg/l) UNDER SAFE DRINKING WATER ACT AMENDMENTS

Contaminant	Current DW Stds MCL	Proposed Standard	Regulatory Status
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SYNTHETIC ORGANIC CHEMICALS

2,3,7,8-TCDD (Dioxin)		-	ANPRM
2,4,5-TP (Silvex)	0.01	0.052	Proposed MCLG
2,4-D	0.1	0.07	Proposed MCLG
Acrylamide		0	Proposed MCLG
Adipates		-	AMPRM
Alachlor		0	Proposed MCLG
Aldicarb		0.009	Proposed MCLG
Atrazine		-	ANPRM
Carbofuran		0.036	Proposed MCLG
Chlordane		0	Proposed MCLG
Dalapon		-	AMPRM
DBCP (Dibromochloropropane)		0	Proposed MCLG
Dibromomethane ***		-	ANPRM
Dinoseb		-	ANPRM
Diquat		-	ANPRM
Endothall		-	ANPRM
Endrin	0.002	-	ANPRM
Epichlorohydrin		0	Proposed MCLG
Ethylene dibromide		0	Proposed MCLG
Glyphosphate		-	ANPRM

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
A6. WATER QUALITY STANDARDS AND CRITERIA FOR TOXIC CHEMICALS

Table A6.3 (continued)

DRINKING WATER STANDARDS (mg/l)		UNDER SAFE DRINKING WATER ACT AMENDMENTS	
Contaminant	Current DW Stds MCL	Proposed Standard	Regulatory Status
Heptachlor		0	Proposed MCLG
Heptachlor epoxide		0	Proposed MCLG
Hexachlorocyclopentadiene		-	ANPRM
Methoxychlor	0.1	0.34	Proposed MCLG
Lindane	0.004	0.0002	Proposed MCLG
PAHs		-	ANPRM
PCBs		0	Proposed MCLG
Pentachlorophenol		0.22	Proposed MCLG
Phthalates		-	ANPRM
Pichloram		-	ANPRM
Simazine		-	ANPRM
Toluene		2	Proposed MCLG
Toxaphene	0.005	0	Proposed MCLG
Total Trihalomethanes	0.1		
Vydate		-	ANPRM
Xylene		0.44	Proposed MCLG

Notes:

* A recent proposed rule (August 18, 1988, Federal Register) would require average Lead content of tap water not to exceed 0.01 mg/l.

** Zinc is inappropriate for regulation on the basis of low toxicity even at concentrations up to 40 mg/l and because it is not carcinogenic, mutagenic, or teratogenic.

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
A6. WATER QUALITY STANDARDS AND CRITERIA FOR TOXIC CHEMICALS

Table A6.3 (continued)

*** EPA proposed to remove this contaminant from the ANPRM list mandated for regulation by Congress.

(Virginia has adopted present federal drinking water intake standards for chemicals evaluated in this report.)

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

DIRECTORY INDEX 1

WATER QUALITY MONITORING STATIONS

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
D1. WATER QUALITY MONITORING STATIONS

Station	Stream	Location	Page No.
01	Opequon Creek	Above Lake at Brtnvl, Frederick Co., Va.	III-11
01595000	North Branch Potomac River	Steyer, Garrett Co., Md.	II-8
01595300	Abram Creek	Oakmont, Mineral Co., W.Va.	II-9
01595500	North Branch Potomac River	Kitzmiller, Garrett Co., Md.	II-10
01595800	North Branch Potomac River	Lat. 39 26 44 Long. 79 06 39 at Barnum	II-13
01597500	Savage River	Below Savage River Dam near Bloomington, Garrett Co., Md.	II-15
01599000	Georges Creek	Franklin, Allegany Co., Md.	II-16
01600000	North Branch Potomac River	Pinto, Md.	II-18
01601500	Wills Creek	Cumberland, Allegany Co., Md.	II-20
01603000	North Branch Potomac River	Near Cumberland, Allegany Co., Md.	II-21
01606000	North Fork S. Branch Potomac R.	Cabins, Grant Co., W.Va.	II-25
01613000	Potomac River	Near Rt. 522 Br., Hancock, Md.	II-38
01614175	Conococheague Creek	Worleytown, Franklin Co., Pa.	III-7
01614500	Conococheague Creek	Fairview, Washington Co., Md.	III-8
01615000	Opequon Creek	State Hwy 7 near Berryville, Frederick Co., Va.	III-21
01618000	Potomac River	Shepherdstown, Jefferson Co., WV.	III-31
01618950	East Branch Antietam Creek	Near Waynesboro, Franklin Co., Pa.	III-33
01619000	Antietam Creek	1.9 miles N.E. of Lettersburg, Washington Co., Md.	III-42
01619500	Antietam Creek	1 mile S.E. of Sharpsburg, Washington Co., Md.	III-42
01621315	North River	Hwy 42 at Bridgewater, Rockingham Co., Va.	IV-26
01621360	North River	Hwy 11 near Mt. Crawford, Rockingham Co., Va.	IV-30
01625500	North River	Hwy 865 Bridge at Port Republic, Rockingham Co., Va.	IV-32
01628250	South Fork Shenandoah River	Hwy 659 Bridge at Lynwood, Rockingham Co., Va.	IV-46
01631000	South Fork Shenandoah River	Front Royal, Warren Co., Va.	IV-57
01634000	North Fork Shenandoah River	Near Strasburg, Warren Co., Va.	IV-18
01636290	Shenandoah River	Hwy 50 Bridge 5 miles S.E. of Millwood, Clarke Co., Va.	IV-60
01636500	Shenandoah River	Millville, Jefferson Co., W.Va.	IV-66
01638500	Potomac River	Point of Rocks, Frederick Co., Md.	V-13
01638890	Rock Creek	Near Gettysburg, Adams Co., Pa.	V-16
01639000	Monocacy River	Bridgeport, Frederick Co., Md.	V-16
01641000	Hunting Creek	Jimtown, Frederick Co., Md.	V-31
01641810	Monocacy River	Near Walkersville, Frederick Co., Md.	V-34
01642500	Linganore Creek	Near Frederick, Frederick Co., Md.	V-36
01643020	Monocacy River	Reichs Ford Bridge near Frederick, Frederick Co., Md.	V-38
01643500	Bennett Creek	Park Mills, Frederick Co., Md.	V-40
01646000	Difficult Run	Near Great Falls, Fairfax Co., Va.	V-67
01646500	Potomac River	Nr. Washington D.C., L. Falls Pump Sta., Montgomery Cty, MD	V-67
01649500	North East Branch Anacostia River	Riverdale, Prince Georges Co., Md.	VI-30
01651000	North West Branch Anacostia River	Near Hyattsville, Prince Georges Co., Md.	VI-28
01652500	Four Mile Run	Alexandria, Va.	VI-47
01653000	Cameron Run	Alexandria, Va.	Vi-52
01653650	Piscataway Creek	Near S. Piscataway, Prince Georges Co., Md.	VI-60
01655000	Accotink Creek	Near Accotink Station, Fairfax Co., Va.	VI-66
01655390	Pohick Creek	Lorton, Fairfax Co., Va.	VI-71
01658475	Quantico Creek	Above Pyrite Mine near Dumfries, Prince William Co., Va.	VII-33
01658480	Quantico Creek	Near Dumfries, Prince William Co., Va.	VII-32
01658500	South Fork Quantico Creek	Near Independent Hill, Prince William Co., Va.	VII-32
01658650	South Fork Quantico Creek	Near Dumfries, Prince William Co., Va.	VII-31
02	Stribling Run	Route 621 Bridge, Frederick Co., Va.	III-11
03	Opequon Creek	Route 620 Bridge, Frederick Co., Va.	III-11
04	Abrams Creek	Below Lake at Route 50, Fredrick Co., Va.	III-18

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
D1. WATER QUALITY MONITORING STATIONS

Station	Stream	Location	Page No.
05	Abrams Creek	Abrams Creek at Route 11, Frederick Co., Va.	III-16
06	Abrams Creek	Above Sewage Treatment Plant, Frederick Co., Va.	III-17
07	Abrams Creek	Below Sewage Treatment Plant, Frederick Co., Va.	III-18
08	Redbud Run	Off Route 661, Frederick Co., Va.	III-23
09	Lick Run	Route 664 Bridge, Frederick Co., Va.	III-23
10	Opequon Creek	Below Turkey Run, Frederick Co., Va.	III-25
101002	Potomac River	Three Sisters Island, D. C.	VI-15
101003	Potomac River	Roosevelt Island, D.C.	VI-17
101004	Potomac River	Memorial Bridge, D.C.	VI-20
101005	Potomac River	Highway Bridge, Mile 99.7, D.C.	VI-16
101006	Potomac River	Potomac Park, D.C.	VI-21
101008	Potomac River	Geisboro Point, D. C.	VI-42
101009	Potomac River	Above Sewage Treatment Plant, Mile 96.1, D.C.	VI-48
101010	Potomac River	Opposite Sewage Reatment Plant, Mile 95.6, D.C.	VI-48
101011	Potomac River	Below Sewage Treatment Plant, Mile 95.3, D.C.	VI-49
101014	Anacostia River	Benning Road Bridge, D. C.	VI-35
101015	Anacostia River	East Capitol Street Bridge, D. C.	VI-35
101017	Anacostia River	11th Street Bridge, D.C.	VI-38
101019	Anacostia River	Washington Channel, Mile 97.1.1, D. C.	VI-39
101020	Rock Creek	D.C. Line, Mile 101-9.1, D. C.	VI-18
101028	Potomac River	At Chain Bridge, Mile 106.5, D.C.	VI-13
101029	Anacostia River	Decatur Rd. Bridge, NE. Branch Of Anacostia River	VI-32
101030	Anacostia River	Bladensburg Rd. Bridge, Anacostia River	VI-32
101031	Anacostia River	Rhode Island Ave Bridge On N.W. Branch Of Anacostia River	VI-30
101032	Pohick Creek	Rt.1 Br., Approx. 1 Mi. On U.S. Rt. 1 S.W. Of Pohick, Va	VI-73
101033	Accotink Creek	Colechester Rd. Bridge Approx. .25 Mi. So. Accotink, Va	VI-68
101034	Occoquan Creek	9.8 Miles Above The High Dam In The Occoquan Reservoir	VII-10
101035	Bull Run	0.3 Miles Above The Confluence Of Bull Run & Occoquan Cr.	VII-13
101036	Potomac River	Tidal Basin at Independence Ave Bridge	VI-21
101037	Occoquan Creek	Occoquan-Woodbridge Water Supp. Intake Va. Hwy. 123 Bridge	VII-17
10G	Pohick Creek	See FCDPW map.	VI-75
11	Opequon Creek	Wadeville, Frederick Co., Va.	III-24
11G	Gunston Cove	See FCDPW map.	VI-78
12	Opequon Creek	Opequon Creek at Burnt Factory, Frederick Co., Va.	III-23
12GB	Gunston Cove	See FCDPW map.	VI-79
12GS	Gunston Cove	See FCDPW map.	VI-79
13	Opequon Creek	Above Abrams Creek, Frederick Co., Va.	III-16
13A	Accotink Bay	Approx. 0.25 mi. N. of mouth at Accotink Bay	VI-69
14PB	Potomac River	Adjacent to mouth of Gunston Cove	VI-83
14PS	Potomac River	Adjacent ot mouth of Gunston Cove	VI-83
15	Opequon Creek	Route 655 Ford, Frederick Co., Va.	III-16
15D	Dogue Creek	See FCDPW map.	VI-64
16	Buffalo Lick Run	Route 723 Bridge, Frederick Co., Va.	III-15
1A0PE040.86	Opequon Creek	Route 50 and 17 Bridge, Frederick Co., Va.	III-15
1AABR000.76	Abrams Creek	Route 7 Bridge at Winchester, Frederick Co., Va.	III-20
1AABR002.73	Abrams Creek	Route 656/659 Bridge, Frederick Co., Va.	III-19
1AABR005.80	Abrams Creek	Route 17-50-522 Bridge at Winchester, Va.	III-19
1AABR007.14	Abrams Creek	Route 11 Bridge at Winchester, Frederick Co., Va.	III-17
1AACC006.13	Accokeek Creek	Route 608 Bridge, Stafford Co., Va.	VII-40
1AAC0001.78	Accotink Creek	Fort Belvoir, Fairfax Co., Va.	VI-67
1AAC0009.08	Accotink Creek	Route 636 Bridge, Fairfax Co., Va.	VI-67

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Station	Stream	Location	Page No.
1AAC0014.57	Accotink Creek	Route 620 Bridge, Fairfax Co., Va.	VI-66
1AAUA001.91	Aquia Creek	Buoy 10 in Aquia Creek, Stafford Co., Va.	VII-40
1AAUA010.26	Aquia Creek	Route 1 Bridge, Stafford Co., Va.	VII-39
1AAUA014.51	Aquia Creek	Route 641 Bridge, Stafford Co., Va.	VII-38
1AAUA019.99	Aquia Creek	Route 610 Bridge, Stafford Co., Va.	VII-38
1ABAR032.10	Back Creek	Route 740 Bridge, Frederick Co., Va.	II-41
1ABAR041.86	Back Creek	Route 522 Bridge, Frederick Co., Va.	II-40
1ABIR000.76	Big Rocky Run	Route 29/211 Bridge, Fairfax Co., VA	VII-12
1ABRB002.15	Broad Run	Route 7 Bridge, Loudoun Co., Va.	V-53
1ABRU006.65	Broad Run	Southern RR Bridge off Route 28, Prince William Co., Va.	V-52
1ABUL001.57	Bull Run	Route 612 Bridge, Prince William Co., VA	VII-13
1ABUL011.03	Bull Run	Gage Sta. Old Centerville Rd., Prince William Co., VA	VII-12
1ACAM000.95	Cameron Run	Gaging Station behind Cameron Station, Alexandria, Va.	VI-51
1ACAX000.19	Catoctin Creek	Route 672 Bridge, Loudoun Co., Va.	V-12
1ACER000.20	Cedar Run	Route 619 Bridge, Prince William Co., VA	VII-8
1ACER016.46	Cedar Run	Route 806 Bridge, Fauquier Co., VA	VII-8
1ACER032.15	Cedar Run	Route 672 Bridge, Fauquier Co., VA	VII-7
1ACH0003.65	Chopawamsic Creek	Route 1 Bridge, Prince William Co., Va.	VII-36
1ACLB000.26	Clearbrook Run	Route 749 Bridge, Frederick Co., Va.	III-24
1ACOA000.00	Coan River	Buoy 6, mouth of Coan River, Northumberland Co., Va.	VII-70
1ACOA001.01	Coan River	Buoy 8, Northumberland Co., Va.	VII-69
1ACOA001.74	Coan River	Buoy 14, Northumberland Co., Va.	VII-69
1ACOA002.60	Coan River	Buoy 19, Northumberland Co., Va.	VII-68
1ACUB003.74	Cub Run	Route 29/211 Bridge, Fairfax Co., VA	VII-11
1ADIF000.86	Difficult Run	Route 193 Bridge, Fairfax Co., Va.	V-66
1ADIF004.02	Difficult Run	Route 7 Bridge, Fairfax Co., Va.	V-65
1ADOU002.19	Dogue Creek	Route 623 Bridge, Fairfax Co., Va.	VI-64
1ADUT000.62	Dutchman Creek	Route 674 Bridge, Loudoun Co., Va.	V-7
1AFLB000.64	Flat Branch	Route 1501 Bridge, Manassas, Prince William Co., Va.	VII-11
1AFLB001.40	Flat Branch	Route 1530 Bridge, Manassas, Prince William Co., Va.	VII-10
1AFOU000.19	Four Mile Run	George Washington Parkway Bridge, Arlington Co., Va.	VI-46
1AFOU000.63	Four Mile Run	Arlington Sewage Treatment Plant, Arlington Co., Va.	VI-45
1AFOU001.19	Four Mile Run	Arlington Ridge Road Bridge, Arlington Co., Va.	VI-45
1AFOU001.92	Four Mile Run	Route 120 Bridge, Arlington Co., Va.	VI-44
1AFOU004.22	Four Mile Run	Route 244 Bridge, Arlington Co., Va.	VI-43
1AGAM003.50	Gambo Creek	Route 301 Bridge, King George Co., Va.	VII-48
1AGAM003.83	Gambo Creek	Route 635 Bridge, King George Co., Va.	VII-47
1AG00002.38	Goose Creek	Route 7 Bridge, Loudoun Co., Va.	V-50
1AG00011.23	Goose Creek	Route 621 Bridge, Loudoun Co., Va.	V-49
1AG00014.44	Goose Creek	Route 15 Bridge, Loudoun Co., Va.	V-48
1AG00022.44	Goose Creek	Route 734 Bridge, Loudoun Co., Va.	V-47
1AG00030.75	Goose Creek	Route 611 Bridge, Fauquier Co., Va.	V-46
1AG00044.36	Goose Creek	Route 17 Bridge, Fauquier Co., Va.	V-46
1AHOC003.67	Hogue Creek	Route 522 Bridge, Frederick Co., Va.	III-14
1AHOC006.23	Hogue Creek	Route 679 Bridge, Frederick Co., Va.	III-13
1AHOC007.96	Hogue Creek	Route 50 Bridge, Frederick Co., Va.	III-13
1AHOR002.28	Horsepen Run	Route 775 Bridge, Loudoun Co., Va.	V-57
1AHOR003.87	Horsepen Run	Dulles Airport Access Road, Loudoun Co., Va.	V-56
1AHUT000.01	Hunting Creek	George Washington Memorial Parkway, Alexandria, Va.	VI-54
1AHUT000.57	Hunting Creek	Alexandria Sewage Treatment Plant, Alexandria, Va.	VI-53
1AHUT001.72	Hunting Creek	Route 611/241 Bridge above STP, Alexandria, Va.	VI-53

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Station	Stream	Location	Page No.
1ALIF000.19	Little Hunting Creek	George Washington Parkway Bridge, Fairfax Co., Va.	VI-62
1ALIF001.19	Little Hunting Creek	At Sewage Treatment Plant, Fairfax Co., Va.	VI-61
1ALIF002.48	Little Hunting Creek	Route 1 Bridge, Fairfax Co., Va.	VI-61
1ALIM001.16	Limestone Branch	Route 15 Bridge, Loudoun Co., Va.	V-43
1AMAE000.75	Massey Creek	Harborview Sewage Treatment Plant, Fairfax Co., Va.	VII-17
1AMON002.60	Monroe Creek	End of Route 1164, Westmoreland Co., Va.	VII-54
1AMUC001.36	Upper Machodoc Creek	Near Mouth of Williams Creek, King George Co., Va.	VII-54
1ANEA000.57	Neabsco Creek	Midway into Bay, Prince William Co., VA	VII-22
1ANEA002.89	Neabsco Creek	Route 1 Bridge, Prince William Co., VA	VII-21
1ANEA005.06	Neabsco Creek	Dale City STP, Prince William Co., VA	VII-20
1ANEA005.15	Neabsco Creek	Above Dale City STP, Prince William Co., VA	VII-19
1ANEA009.12	Neabsco Creek	Route 640 Bridge, Prince William Co., VA	VII-19
1ANOC004.38	North Fork Catoctin Creek	Route 287 Bridge, Loudoun Co., Va.	V-9
1ANOF002.14	North Fork Broad Run	Route 29/211 Bridge, Prince William Co., Va.	V-52
1ANOG005.69	North Fork Goose Creek	Route 722 Bridge, Loudoun Co., Va.	V-45
1AOCC002.47	Belmont Bay	Midway into Bay, Buoy 6, Fairfax Co., Va.	VII-18
1AOCC006.71	Occoquan Creek	Route 123 Bridge, Prince William Co., Va.	VII-16
1AOCC008.11	Occoquan River	Under Power Line at Dam, Fairfax Co., Va.	VII-15
1AOCC008.80	Occoquan River	Under Power Line, Fairfax Co., Va.	VII-15
1AOCC011.88	Occoquan River	Jacob's Rock, Fairfax Co., Va.	VII-14
1AOCC014.34	Occoquan River	Above Ryan's Dam, Fairfax Co., Va.	VII-14
1AOCC019.36	Occoquan River	Route 663 Bridge, Prince William Co., Va.	VII-9
1AOCC024.74	Occoquan River	Route 234 Bridge, Prince William Co., Va.	VII-9
1AOPE023.56	Opequon Creek	Route 667 Bridge, Frederick Co., Va.	III-25
1AOPE032.52	Opequon Creek	Route 7 Bridge at Gaging Station, Frederick Co., Va.	III-20
1AOPE047.44	Opequon Creek	Route 11 Bridge S. of Winchester, Frederick Co., Va.	III-12
1APIM000.15	Pimmit Run	Route 120 Bridge, Arlington Co., Va.	VI-12
1APIN000.57	Pine Hill Creek	Route 205 Bridge, King George, Co., Va.	VII-58
1APOH000.21	Gunston Cove	Midway into Cove, Buoy 3, Fairfax Co., Va.	VI-78
1APOH004.79	Pohick Creek	Route 611 Bridge, Fairfax Co., Va.	VI-73
1APOH005.36	Pohick Creek	Route 1 Bridge above STP, Fairfax Co., Va.	VI-72
1APOH007.65	Pohick Creek	Route 641 Bridge, Fairfax Co., Va.	VI-70
1APOH015.09	Pohick Creek	Route 645 Bridge, Fairfax Co., Va.	VI-70
1APOM001.04	Potomac Creek	Buoy 5 Potomac Creek, Stafford Co., Va.	VII-41
1APOT079.16	Potomac River	Near Mouth of Chopawamsic Creek, Charles Co., Md.	VII-37
1APOT081.34	Potomac River	At Shipping Pt., Buoy 43, Charles Co., Md.	VII-30
1APOT081.89	Potomac River	Below VEPCO's Discharge near Possum Pt., Charles Co., Md.	VII-30
1APOT101.15	Potomac River	Buoy 75 at Sheridan Pt., Prince George Co., Md.	VII-7
1APOT113.49	Potomac River	14th St. Bridge, Washington, D.C.	VI-21
1APOT170.40	Potomac River	Route 340 Bridge, Loudoun Co., Va.	V-6
1APOH003.11	Powells Creek	Route 1 Bridge, Prince William Co., Va.	VII-23
1AQUA004.46	Quantico Creek	Rt. 1 Br. Prince William Co., VA	VII-33
1ARED000.46	Redbud Run	Route 659 Bridge, Winchester, Va.	III-22
1ARED001.61	Redbud Run	Route 656 Bridge, Winchester, Va.	III-22
1ARED004.45	Redbud Run	Route 11 Bridge, Frederick Co., Va.	III-21
1ASC0000.76	Scott Run	Route 193 Bridge, Fairfax Co., Va.	VI-65
1ASLP034.20	Sleepy Creek	Route 697 Bridge, Frederick Co., Va.	II-39
1ASOC001.66	South Fork Catoctin Creek	Route 698 Bridge near Waterford, Loudoun Co., Va.	V-11
1ASOC011.82	South Fork Catoctin Creek	Route 611 Bridge, Loudoun Co., Va.	V-10
1ASOC012.38	South Fork Catoctin Creek	Route 690 Bridge, Loudoun Co., Va.	V-10
1ASOQ006.73	South Fork Quantico Creek	Route 619 Bridge, Prince William Co., Va.	VII-31

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Station	Stream	Location	Page No.
1ASUG004.42	Sugarland Creek	Route 7 Bridge	V-55
1ASUG008.46	Sugarland Run	Route 606 Bridge, Fairfax Co., Va.	V-54
1ATUS000.37	Tuscarora Creek	Route 653 Bridge, Loudoun Co., Va.	V-44
1ATUS003.19	Tuscarora Creek	Route 643 Bridge, Loudoun Co., Va.	V-43
1AUMC000.61	Upper Machodoc Creek	King George Co., Va.	VII-53
1AUMC002.32	Upper Machodoc Creek	At Power Cables, King George Co., Va.	VII-53
1AUMC004.43	Upper Machodoc Creek	Route 218 Bridge, King George Co., Va.	VII-52
1AUMC009.61	Upper Machodoc Creek	Route 301 Bridge, King George Co., Va.	VII-51
1AWLL000.00	Williams Creek	At Mouth, King George Co., Va.	VII-50
1AWLL001.30	Williams Creek	Route 206 Bridge near Dahlgren, King George Co., Va.	VII-49
1AWLL002.21	Williams Creek	Route 301 Bridge, King George Co., Va.	VII-49
1AWLL003.02	Williams Creek	Route 624 Bridge N. of Dahlgren, King George Co., Va.	VII-48
1BBLK000.57	Blacks Run	Route 704 Bridge, Rockingham Co., Va.	IV-28
1BBLK002.10	Blacks Run	Route 988 Bridge, Rockingham Co., Va.	IV-27
1BBLK003.86	Blacks Run	Route 679 Bridge, Rockingham Co., Va.	IV-27
1BBLK006.04	Blacks Run	Route 726 Bridge S. of Harrisonburg, Rockingham Co., Va.	IV-26
1BCDR002.84	Cedar Creek	Route 11 Bridge, Shenandoah Co., Va.	IV-21
1BCDR013.29	Cedar Creek	Route 628 Bridge, Shenandoah Co., Va.	IV-19
1BCKS001.03	Cooks Creek	Route 867 Bridge at Mt. Crawford, Rockingham Co., Va.	IV-30
1BCKS003.10	Cooks Creek	Route 11 Bridge, Rockingham Co., Va. 32VASWCB	IV-29
1BCKS005.10	Cooks Creek	Route 704 Bridge, Rockingham Co., Va.	IV-29
1BCKS007.12	Cooks Creek	Route 701 Bridge at Dayton, Rockingham Co., Va.	IV-28
1BCST006.43	Christians Creek	Route 254 Bridge, Augusta Co., Va.	IV-39
1BCST016.20	Christians Creek	Route 635 S. of Staunton, Augusta Co., Va.	IV-39
1BDGR000.23	Dog Run	Route 621 Bridge near Berryville, Clarke Co., Va.	IV-63
1BDGR000.47	Dog Run	Route 608 Bridge, Clarke Co., Va.	IV-63
1BDGR003.91	Dog Run	Town of Berryville STP, Clarke Co., Va.	IV-62
1BDGR004.02	Dog Run	Upstream of Town of Berryville STP, Clarke Co., Va.	IV-62
1BHKS000.96	Hawksbill Creek	Route 648 Bridge below Luray, Page Co., Va.	IV-52
1BHKS005.85	Hawksbill Creek	Town of Luray STP, Page Co., Va.	IV-51
1BHKS006.04	Hawksbill Creek	Immediately Below Town of Luray STP, Page Co., Va.	IV-51
1BHKS006.23	Hawksbill Creek	Route 675 Bridge in Luray, Page Co., Va.	IV-50
1BHPY000.10	Happy Creek	Riverton Junction, Warren Co., Va.	IV-58
1BHPY002.60	Happy Creek	Route 55 Bridge at Front Royal, Warren Co., Va.	IV-58
1BLEW000.61	Lewis Creek	Route 612 Bridge, Augusta Co., Va.	IV-38
1BLEW002.80	Lewis Creek	Route 275 Bridge, Augusta Co., Va.	IV-37
1BLEW005.40	Lewis Creek	Below Sewage Disposal Discharge, Augusta Co., Va.	IV-36
1BLEW005.68	Lewis Creek	Above Sewage Disposal Discharge, Augusta Co., Va.	IV-36
1BLEW006.64	Lewis Creek	Below Farrier Dauling Co., Staunton, Augusta Co., Va.	IV-35
1BLEW006.76	Lewis Creek	Above Farrier Dauling Co. Augusta Co., Va.	IV-35
1BLEW006.93	Lewis Creek	Staunton, Augusta Co., Va.	IV-34
1BLEW007.08	Lewis Creek	Staunton, Augusta Co., Va.	IV-34
1BLMN004.84	Long Marsh Run	Route 612 Bridge N.E. of Berryville, Clarke Co., Va.	IV-61
1BMDD001.65	Muddy Creek	Route 734 Bridge, Rockingham Co., Va.	IV-25
1BMDL022.09	Middle River	Route 780 Bridge E. of Verona, Augusta Co., Va.	IV-38
1BMDL029.46	Middle River	Route 11 Bridge N.E. of Staunton, Augusta Co., Va.	IV-33
1BMDL034.28	Middle River	Route 626 Bridge, Augusta Co., Va.	IV-32
1BNFS000.69	North Fork Shenandoah River	Route 340/522 Bridge at Front Royal, Warren Co., VA.	IV-23
1BNFS010.34	North Fork Shenandoah River	Route 55 Bridge in Strasburg, Shenandoah Co., Va.	IV-17
1BNFS012.98	North Fork Shenandoah River	Route 648 Bridge in Strasburg, Shenandoah Co., Va.	IV-16
1BNFS037.89	North Fork Shenandoah River	Route 633 Bridge near Woodstock, Shenandoah Co., Va.	IV-16

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<u>Station</u>	<u>Stream</u>	<u>Location</u>	<u>Page No.</u>
1BNFS043.06	North Fork Shenandoah River	Route 758 Bridge near Woodstock, Shenandoah Co., Va.	IV-15
1BNFS059.59	North Fork Shenandoah River	Route 675 Bridge E. of Edingburg, Shenandoah Co., Va.	IV-15
1BNFS062.18	North Fork Shenandoah River	Route 698 Bridge S. of Edingburg, Shenandoah Co., Va.	IV-14
1BNFS072.78	North Fork Shenandoah River	Route 11 Bridge, Shenandoah Co., Va.	IV-14
1BNFS076.56	North Fork Shenandoah River	Route 767 Bridge, Shenandoah Co., Va.	IV-12
1BNFS081.42	North Fork Shenandoah River	Route 617/953 Bridge W. of New Market, Va.	IV-10
1BNFS087.02	North Fork Shenandoah River	Route 42 Bridge at Timberville, Rockingham Co., Va.	IV-9
1BNFS087.81	North Fork Shenandoah River	Shen-Valley Meat Packers Effluent, Rockingham Co., Va.	IV-9
1BNFS088.00	North Fork Shenandoah River	Up from Shen-Valley Meat Packers, Rockingham Co., Va.	IV-8
1BNFS088.19	North Fork Shenandoah River	Rockingham Poultry Discharge, Rockingham Co., Va.	IV-8
1BNFS088.38	North Fork Shenandoah River	Up from Rockingham Poultry Discharge, Rockingham Co., Va.	IV-7
1BNFS090.16	North Fork Shenandoah River	Route 617 Bridge above Broadway, Rockingham Co., Va.	IV-7
1BNFS093.53	North Fork Shenandoah River	Route 259 Bridge, Rockingham Co., Va.	IV-6
1BNTH000.18	North River	Route 629/865 Bridge at Port Republic, Rockingham Co., Va.	IV-31
1BNTH016.24	North River	Route 11 Bridge S. of Mt. Crawford, Rockingham Co., Va.	IV-31
1BNTH020.40	North River	Route 42 Bridge at Bridgewater, Rockingham Co., Va.	IV-25
1BPOG000.11	Poague Run	Below Holiday Inn Discharge, Augusta Co., Va.	IV-33
1BPSG001.36	Passage Creek	Route 55 Bridge, Warren Co., Va.	IV-22
1BSHN022.63	Shenandoah River	Route 7 Bridge, Clarke Co., Va.	IV-64
1BSHN038.27	Shenandoah River	Route 50 Bridge, Clarke Co., Va.	IV-60
1BSHN048.00	Shenandoah River	Route 624 Bridge, Warren Co., Va.	IV-59
1BSHN054.22	Shenandoah River	Opposite of Front Royal Country Club, Warren Co., Va.	IV-57
1BSMT010.90	Smith Creek	Route 211 Bridge, Shenandoah Co., Va.	IV-11
1BSMT018.40	Smith Creek	Route 798 Bridge, Rockingham Co., Va.	IV-11
1BSSF000.58	South Fork Shenandoah River	Route 340/522 Bridge at Front Royal, Warren Co., Va.	IV-55
1BSSF003.56	South Fork Shenandoah River	Route 619 Bridge at Gaging Station, Warren Co., Va.	IV-54
1BSSF004.23	South Fork Shenandoah River	1 Mile Upstream of Route 619 Bridge, Warren Co., Va.	IV-53
1BSSF046.67	South Fork Shenandoah River	Route 675 Bridge W. of Luray, Page Co., Va.	IV-53
1BSSF054.20	South Fork Shenandoah River	Route 211 Bridge E. of New Market, Page Co., Va.	IV-49
1BSSF060.57	South Fork Shenandoah River	Route 340 Bridge, Page Co., Va.	IV-49
1BSSF078.24	South Fork Shenandoah River	Route 602 Bridge, Rockingham Co., Va.	IV-48
1BSSF085.08	South Fork Shenandoah River	Route 33 Bridge, Rockingham Co., Va.	IV-48
1BSSF092.69	South Fork Shenandoah River	Route 649 Bridge, Rockingham Co., Va.	IV-47
1BSSF100.07	South Fork Shenandoah River	Route 659 Bridge near Lynwood, Rockingham Co., Va.	IV-47
1BSTH000.19	South River	Route 629 Bridge at Port Republic, Rockingham Co., Va.	IV-46
1BSTH007.80	South River	Route 778 at Harrisonburg, Augusta Co., Va.	IV-45
1BSTH014.49	South River	Route 612 Bridge at Crimora, Augusta Co., Va.	IV-44
1BSTH018.50	South River	Route 611 Bridge near Dooms, Augusta Co., Va.	IV-43
1BSTH023.70	South River	Route 250 Bypass in Waynesboro, Augusta Co., Va.	IV-43
1BSTH027.10	South River	Route 664 Bridge, Waynesboro, Va.	IV-42
1BSTH028.51	South River	Route 653 Bridge S. of Waynesboro, Augusta Co., Va.	IV-41
1BSTH030.80	South River	Route 632 Bridge, Augusta Co., Va.	IV-41
1BSTH033.50	South River	Route 634 Bridge, Augusta Co., Va.	IV-40
1BSTH038.50	South River	Route 608 Bridge, Augusta Co., Va.	IV-40
1BSTV002.92	Stephens Run	Route 640 Bridge below Stephens City, Fredrick Co., Va.	IV-59
1BSTY001.22	Stony Creek	Route 11 Bridge, Shenandoah Co., Va.	IV-13
1BSTY006.81	Stony Creek	Route 675 Bridge, Shenandoah Co., Va.	IV-12
1G	Pohick Creek	Above STP, Rt. 1 Bridge	VI-72
20	Hoge Run	Above Opequon Creek, Frederick Co., Va.	III-12
23	Abrams Creek	Below O'Sullivan Rubr, Frederick Co., Va.	III-18
232015	Potomac River	Marshall Hall, Md	VI-65

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232016	Potomac River	Forte Foote, Md	VI-55
232017	Potomac River	Fort Washington, Md	VI-55
24	Opequon Creek	Opequon Creek at Route 660, Frederick Co., Va.	III-26
25	Pond Tributary Wrights Run	Pond on Trib. to Wrights Run, Frederick Co., Va.	III-14
26	High View Manor Pond	High View Manor Pond, Frederick Co., Va.	III-26
2G	Pohick Creek	See FCDPW map.	VI-74
3G	Pohick Creek	See FCDPW map.	VI-74
4G	Pohick Creek	See FCDPW map.	VI-75
514019	Potomac River	Hallowing Point, Va.	VI-84
550461	Potomac River	Potomac River at Paw Paw, Morgan Co., W.Va.	II-35
550462	Opequon Creek	County Route 12 Highway Bridge, Berkeley Co., W.Va.	III-28
550463	Opequon Creek	State Route 51 Highway Bridge, Jefferson Co., W.Va.	III-27
550464	Back Creek	State Route 9 Highway Bridge, Berkeley Co., W.Va.	II-42
550465	Back Creek	State Route 45 Bridge, Berkeley Co., W.Va.	II-42
550466	Sleepy Creek	State Highway 9 Bridge, Morgan Co., W.Va.	II-39
550467	North Branch Potomac River	Route 9 Bridge at Pinto, Mineral Co., Md.	II-18
550468	South Branch Potomac River	County Route 3 Highway Bridge, Hampshire Co., W.Va.	II-29
550469	South Branch Potomac River	U.S. Route 33 Highway Bridge, Pendleton Co., W.Va.	II-26
550470	North Fork S. Branch Potomac R.	U.S. 33 Highway Bridge at Judy Gap, Pendleton Co., W.Va.	II-26
550471	Shenandoah River	U.S. Route 340 Highway Bridge, Jefferson Co., W.Va.	IV-67
550472	Shenandoah River	County Route 25/7 near Meyerstown, Jefferson Co., W.Va.	IV-65
550554	Stony River	U.S. Route 50 Highway Bridge, Grant Co., W.Va.	II-6
550555	Buffalo Creek	State Route 90 Highway Bridge, Grant Co., W.Va.	II-8
550556	Elk Run	Elk Run at Route 90 near Henry	II-7
550764	Opequon Creek	At the Railroad Trestle at Blairton, Berkeley Co., W.Va.	III-28
550766	Tuscarora Creek	County Route 36 Highway Bridge, Berkeley Co., W.Va.	III-29
550804	Cacapon River	County Route 7 Highway Bridge, Morgan Co., W.Va.	II-36
550805	Little Cacapon River	Route 2 Highway Bridge, Hampshire Co., W.Va.	II-33
550806	Patterson Creek	Route 28 Bridge in Ft. Ashby, Mineral Co., W.Va.	II-23
550843	South Branch Potomac River	U.S. Rt. 220 Highway Bridge, Hardy Co., W.Va.	II-27
550891	Stony River	.75 miles below Mt. Storm Dam, Grant Co., W.Va.	II-6
5G	Pohick Creek	See FCDPW map.	VI-76
6G	Accotink Bay	Mouth of Accotink Bay	VI-69
7G	Gunston Cove	See FCDPW map.	VI-76
7GB	Gunston Cove	See FCDPW map.	VI-77
7GS	Gunston Cove	See FCDPW map.	VI-77
8G	Gunston Cove	See FCDPW map.	VO-81
8GB	Gunston Cove	See FCDPW map.	VI-82
8GS	Gunston Cove	See FCDPW map.	VI-82
9G	Gunston Cove	See FCDPW map.	VI-80
9GB	Gunston Cove	See FCDPW map.	VI-80
9GS	Gunston Cove	See FCDPW map.	VI-81
AAR0000	Aaron Run	1.2 MNW of Bloomington along Savage River	II-14
AFR0025	Allens Fresh Run	Bridge on MD. Rt. 234	VII-60
ANA01	Anacostia River	D. C. Line Bridge	VI-32
ANA08	Anacostia River	Benning Road Bridge, D.C.	VI-35
ANA14	Anacostia River	Pennsylvania Avenue Bridge, D.C.	VI-37
ANA21	Anacostia River	South Capitol Street Bridge, D.C.	VI-41
ANA29	Potomac River	Potomac Confluence, D.C.	VI-41
ANT0002	Antietam Creek	Bridge on Harper's Rd. at Antietam	III-43
ANT0203	Antietam Creek	At Bridge on Poffenberger Road	III-41

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Station	Stream	Location	Page No.
ANT0229	Antietam Creek	Marbern Rd. Bridge West of Funkstown	III-40
ANT0241	Antietam Creek	Behind pumping station intersec.of Mt.Aetna Rd. & U.S.40	III-40
ANT0254	Antietam Creek	U.S. 40 Bridge	III-40
ANT0354	Antietam Creek	MD Rt. 60 Bridge	III-34
ANT0366	Antietam Creek	Antietam Cr. gaging station W. Rt. 60 - Roc. For.	III-33
BEE0014	Bear Branch	Below lawful seepages & drains in 1st raingage No. of Rd.	V-23
BEE0015	Bear Branch	Below John Owings Rd. above all landfill drainage.	V-22
BPC0035	Big Pipe Creek	Big Pipe Bridge on Briggs Ford Rd.	V-25
BPC0120	Big Pipe Creek	Rt. 32 Bridge, S.E. Taneytown	V-25
BPC0177	Big Pipe Creek	Arters Mill Road, 2 miles S.W. Silver Run	V-24
BPC0213	Big Pipe Creek	Saw Mill Rd. Bridge, 1 mile S.E. of Union Mills	V-24
BSK0013	Brooks Run	MD Rt. 245 crossing, 1.7 miles from MD Rt. 235,	VII-63
CAC0031	Catoctin Creek	Mouth at Bridge on Rt. 464	V-9
CAP0005	Cacapon River	W.VA Route 9 Bridge at Great Cacapon	II-36
CAR0017	Carroll Creek	E. Patrick Street Bridge	V-36
CAR0019	Carroll Creek	Below East Street Bridge	V-35
CAR0022	Carroll Creek	South Market Street Bridge	V-35
CAR0053	Carroll Creek	Rock Springs Rd. Bridge	V-34
CON0005	Conococheague Creek	Bridge on Md. Rt. 68	III-10
CON0051	Conococheague Creek	Kemps Mill Road Bridge	III-9
CON0089	Conococheague Creek	U. S. 40 Bridge	III-8
CON0157	Conococheague Creek	Broadfording Road Bridge	III-8
CON0183	Conococheague Creek	MD. Rt. 494 Bridge	III-7
CON0210	Conococheague Creek	MD Rt. 58 Bridge	III-7
CUN0001	Cunningham Falls	Park Rd. X-ing off Catoctin Hollow Road	V-29
CUN0021	Cunningham Falls	1st x-ing E. of Rt. 77	V-29
DIC0020	Dickenson Run	One mile SE New Windsor on Wakefield Valley Rd.	V-27
DPQ0000	Deep Run	3.7 miles NE of Kitzmiller; via WV Rt's. 42 & 46.	II-11
EKL0000	Elklick Run	Elklick Run just above its mouth	II-12
FCWA.pot	Potomac River	FCWA intake, Lowes Island, VA side	V-57
FLA0019	Flat Run	Bridge on US Route 15	V-20
GEO0009	Georges Creek	1 mile north of Westernport	II-15
GIC0004	Gilbert Creek	MD 234 - Budds Cr. Rd. Bridge	VII-61
GIC0085	Gilbert Creek	Bridge where Keech Rd. meets Oaks Rd. 1.6 miles W. of Oaks	VII-61
GRO0001	Grove Creek	MD. Rt. 77 X-ing.	III-37
GRO0015	Grove Creek	2nd X-ing by Ungar Rd. heading east.	III-37
GRO0019	Grove Creek	Beards Church Road X-ing.	III-37
GRO0020	Grove Creek	360' d/s STP discharge, 20' d/s lagoon pipe.	III-36
GRO0021	Grove Creek	260' d/s STP discharge, just d/s STP fence corner.	III-36
GRO0022	Grove Creek	160' d/s STP discharge, just d/s beagle dog house.	III-36
GRO0023	Grove Creek	60 ft. d/s STP discharge	III-35
GRO0025	Grove Creek	Just d/s Rt. 77 & L. of STP entrance	III-35
GRO0033	Grove Creek	Penna. Ave. X-ing	III-35
HUN0097	Hunting Creek	Rd. X-ing at Camp Peniel	V-30
HUN0112	Hunting Creek	D/S dam between dam and blockhouse	V-30
HUN0116	Hunting Creek	Park ent. Rd. X-ing off Catoctin Hollow Rd.	V-28
HWL0000	Howell Run	Access from Kitzmiller-Rt.42 & 46, 3.7 mls.NE Kitzmiller	II-12
INC0036	Indian Creek	Sunnyside Ave. crossing	VI-30
INC0044	Indian Creek	Powder Mill Rd. crossing	VI-29
INC0051	Indian Creek	Odell Rd. crossing	VI-29
JOR0030	Jordan Swamp	Rt. 382 X-ing, just W. of Mattawoman - Beantown Rd.	VII-59

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
D1. WATER QUALITY MONITORING STATIONS

Station	Stream	Location	Page No.
LIC0004	Licking Creek	U. S. 40 Bridge	II-40
LPC0144	Little Pipe Creek	Bridge on MD 75	V-28
LPC0193	Little Pipe Creek	Church Rd. Bridge below Copps Bridge.	V-27
LPC0199	Little Pipe Creek	Bridge on Rt. 622	V-26
MAT0007	Mattawoman Creek	At Black Day Beacon 1	VII-29
MAT0010	Mattawoman Creek	100 Ft. off shore from Burning Site on Deep	VII-29
MAT0013	Mattawoman Creek	100 Ft. due E. of Deep Pt. in Channel	VII-28
MAT0016	Mattawoman Creek	500 Yds. NW of Sweden Pt. Marina.	VII-28
MAT0029	Mattawoman Creek	Midway between tip of Bullocks Pt. & tip on North Shore.	VII-27
MAT0030	Mattawoman Creek	Between N. tip Marsh Island AASE @ old pilings.	VII-27
MAT0051	Mattawoman Creek	Mid-channel 0.3 miles upstream from Mattling's wharf.	VII-26
MAT0061	Mattawoman Creek	Mid-channel 0.3 mi. U/S From's wharf off Harrison Gut.	VII-26
MAT0076	Mattawoman Creek	Mid-channel where railroad is tangent to creek.	VII-25
MAT0078	Mattawoman Creek	MD Rt. 225 crossing	VII-25
MAT0134	Mattawoman Creek	Rt. 227 X-ing Mattawoman Cr. Olging Station.	VII-24
MAT0175	Mattawoman Creek	Unnamed Rd. crossing at Bolton just N. of Rt. 228	VII-24
MAT0224	Mattawoman Creek	Action Lane crossing	VII-23
MCN0017	McIntosh Run	MD Rt. 5 crossing, 1.25 miles NW of Leonardtown.	VII-63
MCN0047	McIntosh Run	Clover Hill-McIntosh Rd. X-ing, 2.5 miles NW Leonardtown.	VII-63
MON0020	Monocacy River	Bridge on Md. Rt. 28	V-41
MON0138	Monocacy River	Bridge on MD Rt. 355	V-39
MON0155	Monocacy River	Bridge on Reels Mill Road	V-37
MON0269	Monocacy River	Bridge on Biggs Ford Road	V-33
MON0299	Monocacy River	Devilbis Bridge on Devilbis Bridge Road	V-32
MON0468	Monocacy River	Six Bridge on Sixes Road	V-21
MON0498	Monocacy River	Bridge on Keysville Rd.	V-19
MON0528	Monocacy River	Bridge on MD Rt. 7, Bridgeport	V-17
MRS0000	Marsh Run	Mouth of Marsh Run	III-39
MRS0007	Marsh Run	Bridge on Old Forge Rd.	III-39
MRS0033	Marsh Run	Above confluence with West Branch	III-38
MSH0016	Marsh Run	At USGS Gage, 220 Ft. above bridge on Spreacher Rd.	III-29
MTM0002	Middle Creek	1/4 mile upstream from confluence with Toms Creek	V-19
MYL0008	Mill Run	MD 6 Bridge	VII-43
NAJ0100	Nanjemoy Creek	Trappe Bridge, MD 6	VII-42
NBP0004	North Branch Potomac River	0.4 mile above confluence, access on WV side.	II-24
NBP0023	North Branch Potomac River	Toll bridge at Oldtown	II-24
NBP0085	North Branch Potomac River	At Spring Gap	II-24
NBP0103	North Branch Potomac River	W. of Moores Hollow Rd. & Rt. 51	II-22
NBP0196	North Branch Potomac River	North Branch at Wiley Ford Bridge	II-21
NBP0217	North Branch Potomac River	Ridgley Bridge	II-19
NBP0326	North Branch Potomac River	Md. RR Bridge at Pinto	II-17
NBP0461	North Branch Potomac River	Bridge on Rt. 220 near Keyser	II-17
NBP0514	North Branch Potomac River	North Branch at Piedmont	II-16
NBP0534	North Branch Potomac River	At Bloomington, upstream from Savage River	II-13
NBP0597	North Branch Potomac River	USGS Gage at Bridge at Barnum	II-12
NBP0689	North Branch Potomac River	Downstream of Md. Rt. 38 at Kitzmiller	II-11
NEB0016	North East Branch Anacostia River	Riverdale Rd. X-ing D/S gage.	VI-31
NWA0160	North West Branch Anacostia River	@ abandoned bridge 150' So. Bonifant Rd. X-ing.	VI-27
NWA0171	North West Branch Anacostia River	@ trib., NW Br. Pk Disposal Rd. X-ing	VI-27
NWC0000	New Creek	Just above confluence with North Br. access from Keyser WV	II-17
PIN0062	Piney Creek	MD 97 Bridge, NW Taneytown	V-18

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
D1. WATER QUALITY MONITORING STATIONS

Station	Stream	Location	Page No.
PIN0092	Piney Creek	Fringer Rd. Bridge, NE Taneytown	V-18
PIS0033	Piscataway Creek	RT. 210 Crossing	VI-59
PIS0066	Piscataway Creek	Unnamed Rd. crossing Crk. .1 mile from Floral Park Rd.	VI-59
PIS0099	Piscataway Creek	Brandywine Rd. crossing	VI-58
PIS0133	Piscataway Creek	USS Naval Reservation Rd. X-ing (via Dangerfield Rd.)	VI-58
PIS0148	Piscataway Creek	Access P-4A Sludge Disposal Site	VI-57
PIS0164	Piscataway Creek	Piscataway Rd. crossing, .1 mile from Roaryville Rd.	VI-57
PMS01	Potomac River	Fletchers Boat House, D.C.	VI-11
PMS10	Potomac River	East Side Of Key Bridge, D.C.	VI-15
PMS21	Potomac River	Highway Bridge, Mile 99.7, D.C.	VI-16
PMS29	Potomac River	Hains Point, D.C.	VI-42
PMS33	Four Mile Run	Four Mile, D.C.	VI-47
PMS37	Potomac River	Above Sewage Treatment Plant, Mile 96.1, D.C.	VI-48
PMS44	Potomac River	Woodrow Wilson Bridge, D.C.	VI-49
PMS51	Potomac River	Rosier Bluff, 100 Meters W. Of Buoy, D.C.	VI-52
POT1342	Potomac River	End of Violets Lock Road	V-63
POT1471	Potomac River	Eastern Terminus of Whites Ferry	V-42
POT1532	Potomac River	Above Monocacy Mouth, 2.0 mile below sewer discharge	V-14
POT1595	Potomac River	E. end of Br., U.S. Rt. 15 (Point of Rocks, MD)	V-12
POT1635	Potomac River	From bank above Little Catoctin Creek	V-8
POT1661	Potomac River	MD 17 Bridge	V-8
POT1707	Potomac River	U.S. 340 Bridge	V-6
POT1725	Potomac River	S. of Pleasantville along Harpers Ferry Rd.	III-43
POT1798	Potomac River	0.5 mile above mouth of Antietam Cralong C&O Canal Rd.	III-31
POT1830	Potomac River	Below Bridge on MD. Route 34 (Shepherdstown, WV)	III-30
POT2386	Potomac River	Below bridge on US Rt. 522 in Hancock	II-37
POT2753	Potomac River	RR Bridge off of MD 51, 0.5 mile North of Paw Paw	II-34
POT2766	Potomac River	Bridge Rt. 51 near Paw Paw, WV	II-34
POT2776	Potomac River	0.3 mi. u/s confl. w/Purslane Run, via Paw Paw, WV	II-34
POT2822	Potomac River	One mile downstream of Town Creek	II-33
POTOMAC.LAB	Potomac River	WSSC WTP nr. Watkins Island (Md side)	V-64
PTB01	Potomac River	Tidal Basin	VI-22
PTC0006	Port Tobacco Creek	MD 6 crossing	VII-45
PWC04	Anacostia River	Washington Channel, Mile 97-1.1, D.C.	VI-40
RCM0111	Rock Creek	Rockhold Cr. 1.5 miles above mouth of creek	VI-18
RCR01	Rock Creek	At Meadowbrook Nature Center	VI-20
RCR09	Rock Creek	Rock Creek At Connecticut Avenue	VI-19
RCR12	Rock Creek		VI-19
SAV0000	Savage River	MD Rt. 135	II-14
SAV0037	Savage River	Gaging station 0.7 mile below Savage R. Dam USGS-01597500	II-14
SEN0056	Seneca Creek	Rt. 107 X-ing at Dawsonville	V-62
SHN0002	Shenandoah River	Along river on Harpers Ferry side 5.0 miles below gage.	IV-67
SOU0004	South Branch Potomac River	0.4 miles from mouth of Stickley Road	II-30
TBK01	Potomac River	Battery Kimble, D.C.	VI-14
TC001	Potomac River	C & O Canal Georgetown, D.C.	VI-17
TC006	Potomac River	C & O Canal Fletcher's Boathouse, D.C.	VI-11
TDA01	Potomac River	Dalecarlia, Washington, D.C.	VI-12
TDU01	Anacostia River	Fort Dupont, D.C.	VI-36
TFB01	Potomac River	Foundry Branch Park, D.C.	VI-14
TFC01	Anacostia River	Fort Chapin, D.C.	VI-36
TFD01	Anacostia River	Fort Davis, D.C.	VI-38

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
D1. WATER QUALITY MONITORING STATIONS

Station	Stream	Location	Page No.
TFR0000	Three Forks Run	Above confluence with N. Branch, 2 miles NE of Kitzmiller	II-11
TFS01	Anacostia River	Fort Stanton, D.C.	VI-39
THR01	Anacostia River	Nash St., N.E., Washington, D.C.	VI-33
TNA01	Anacostia River	Nash Street NE., D.C.	VI-34
TOC0001	Tonoloway Creek	Near mouth Rt. 144 X-ing.	II-38
TOM0003	Toms Creek	Bridge on Sixes Road	V-20
TOM0038	Toms Creek	Fourpoints Bridge on Keysville Road	V-20
TOM0061	Toms Creek	Bridge on Creamery Road	V-19
TOR01	Potomac River	Oxon Run Behind Eastgate Mall, D.C.	VI-43
TOW0013	Town Creek	Town Cr. where X'd by MD 51 near Cardinal Club in Town Cr.	II-32
TOW0030	Town Creek	Near bridge on Oldtown Road	II-31
TPB01	Anacostia River	Pope's Branch, D.C.	VI-37
TTX27	Anacostia River	Texas Avenue, D.C.	VI-40
TUC0008	Tuscarora Creek	0.6 mile SW Licksville, Farthest downstream bridge.	V-14
TUTO1	Anacostia River	Unnamed Tributary, New York & So. Dakota, D.C.	VI-33
TWB01	Anacostia River	Watts Branch, D.C.	VI-34
UDJ0000	Unnamed Tributary	Just above first trib. Schaeffer Rd. (settling basin)	V-59
UDN0009	Unnamed Tributary	30 Ft. right of Bryants Nursery Rd., 9 mile from New H.Ave.	VI-26
UDN0013	Unnamed Tributary	300 Ft. Down Rd. rt.of Bryants Nursery Rd. 7 mile from N.H.	VI-25
UHK0000	Unnamed Tributary	Mouth 1st trib. entering URG from NW D/S Schaeffer Rd.	V-62
UHK0001	Unnamed Tributary	Schaeffer Rd. X-ing, first drainage W. of Trib. URG	V-61
UHK0002	Unnamed Tributary	Schaeffer Rd. X-ing, 1st. drainage W.of trib.URG	V-61
UHL0000	Unnamed Tributary	Mouth 1st trib.entering URG from the E.above Schaeffer Rd	V-60
UHM0000	Unnamed Tributary	Mouth of 1st. trib. to URG from W. U/S Schaeffer Rd.	V-58
UHM0001	Unnamed Tributary	Mouth of 1st. trib. to URG from W. U/S Schaeffer Rd	V-58
UIC0007	Unnamed Tributary	Ammendale Rd. crossing	VI-29
UIC0015	Unnamed Tributary	1000 Ft. below mineral pigments outfall	VI-28
UIC0016	Unnamed Tributary	Opposite of mineral pigments co. across RR tracks and Rt.1.	VI-28
UIL0002	Unnamed Tributary	W. New Hampshire Ave., N. of MD 198 (settling basin B).	VI-26
UKM0015	Unnamed Tributary	Unnamed farm road 0.3 mi.NE intersec. MD 27 & Sullivan Rd.	V-22
UKM0017	Unnamed Tributary	Unnamed Farm Rd.off Sullivan Rd.0.1 mi.W MD 27 intersec.	V-21
UOK0001	Unnamed Tributary	Right of Bryants Nursery Rd.,.7 mile from N. Hampshire Ave.	VI-24
UOK0004	Unnamed Tributary	Treeline 1000 Ft.S.of Pool Road.	VI-23
UOK0006	Unnamed Tributary	Treeline 1000 Ft.S.of Pool Road.	VI-23
UOK0008	Unnamed Tributary	Treeline 1000 Ft.S.of Pool Road.	VI-22
UOW0001	Unnamed Tributary	First Rd. W. New Hampshire Ave., N. of MD 198	VI-24
UPS0004	Unnamed Tributary	X-ing Old Orchard Rd. .15 mile from Ednor Road.	VI-25
UQI0003	Unnamed Tributary	First trib. E. of Clover Hill Rd., 1 mile from 235.	VII-62
UQJ0010	Unnamed Tributary	Morgan Rd. X-ing of 1st trib.Brooks Run. N & W of Rt. 245.	VII-62
UQK0004	Unnamed Tributary	100 Yds. below pond, S. MD Wood Treating Co., W. Hollywood.	VII-62
UQL0001	Unnamed Tributary	Access P-4A sludge disposal site (MES Project).	VI-55
UQT0001	Unnamed Tributary	Access P-4A sludge disposal site (MES Project).	VI-56
UQW0001	Unnamed Tributary	Access P-4A sludge disposal site (MES Project).	VI-56
URE0001	Unnamed Tributary	Outfall from lower pond.	V-23
URE0003	Unnamed Tributary	Above fill area, John Owings Road, above undergrnd pipe.	V-23
URG0015	Unnamed Tributary	0.1 mi. D/S Schaeffer Rd.1.4 mi. W./Rt.118 Brownstown	V-60
URG0017	Unnamed Tributary	Just above first trib. above Schaeffer Road.	V-59
UWN0002	Unnamed Tributary	On MD Rt.5 just SE of MD 382 junction	VII-59
UWR0000	Unnamed Tributary	0.6 mile N. of Kemps on Kemps Mill Rd.	III-9
WAD.gf	Potomac River	Water supply intake at Great Falls, MD	V-64
WDS0018	Wards Run	MD 6 Bridge	VII-41

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
D1. WATER QUALITY MONITORING STATIONS

Station	Stream	Location	Page No.
WIL0013	Wills Creek	Gaging Station - Confl/Braddock Run	II-20
WMR0000	West Branch	0.4 mile below Marsh Pike.	III-39
WMR0004	West Branch	Bridge on Marsh Pike, No. of Paramount.	III-38
WMR0011	West Branch	Bridge on Paradise Church Road	III-38
WQN0501	Conococheague Creek	1.0 mile West of Worleytown, Franklin Co., Pa.	III-6
WQN0503	Rock Creek	U.S. 140 bridge near Gettysburg, Adams Co., Pa.	V-15
WQN0504	East Branch Antietam Creek	T-363 bridge, Franklin Co., Pa.	III-32
XAF9685	Coan River	Lat. 37 59 35 Long 76 28 30	VII-68
XBD6829	Nomini Creek	Lat. 38 06 45 Long. 76 42 55	VII-64
XBE1722	Yeocomico River	Lat. 38 01 40 Long. 76 38 25	VII-67
XBE7084	Lower Machodoc	Lat. 38 07 00 Long. 76 38 25	VII-65
XBE9541	Potomac River	At Buoy BW 51B off Ragged Point	VII-65
XBF3080	Potomac River	1400 yds SSW of Cornfield Harbor	VII-70
XBF6154	Potomac River	250 yds. W. of FL R4, 18 ft. depth	VII-67
XBF8885	Nomini Bay	Lat. 38 08 45 Long. 76 28 30	VII-65
XBG4111	Lake Conoy	Channel to Potomac	VII-73
XBG4113	Lake Conoy	Southern Cove	VII-71
XBG4399	Lake Conoy	North of Treasure Island	VII-73
XBG4515	Lake Conoy	Eastern Cove	VII-71
XBG4599	Lake Conoy	Upper end of Northwest Cove	VII-72
XBG4714	Lake Conoy	Northern Cove	VII-72
XCB9070	Upper Machodoc	Lat. 38 19 00 Long. 77 03 00	VII-51
XCC6634	Potomac River	Mid-channel: Swan Pt. and White Pt.	VII-58
XCD4364	St. Clement Bay	400 yds. SW of Long Point	VII-64
XDA4238	Potomac River	Buoy 27 SW of Smith Point	VII-74
XDA5027	Potomac River	Off Smith Point, SP, Charles Co., Md.	VII-36
XDA8825	Potomac River	1700 yds. W. of Sandy Point	VII-66
XDB3321	Potomac River	Buoy 13 off mouth of Nanjemoy Creek	VII-44
XDB3499	Potomac River	0.7 naut. miles SW of mouth of Popes Creek	VII-47
XDB3853	Potomac River	0.42 naut. mil. W. of C7 & 0.87 mi. SE of Upper Cedar Point	VII-45
XDB4532	Nanjemoy Creek	Mid Channel at Blossom Pt. & Benny Gray Point	VII-43
XDB4680	Potomac River	0.8 mi. NE of FL 5 & 0.35 mi. SE of FL 6	VII-44
XDB6719	Nanjemoy Creek	Mid-channel: off mouth of Boot Creek	VII-42
XDB6884	Port Tobacco River	Mid-channel: E. of Windmill Point	VII-46
XDB9786	Port Tobacco Creek	Just W. of Warehouse Point	VII-46
XDC0407	Potomac River	0.26 mi. E. FL 33, 803.3, 184.7, near Lower Cedar Pt	VII-57
XDC0511	Potomac River	0.16 mi. E. Lower Cedar Point	VII-57
XDC1706	Potomac Estuary	Mid-channel at Morgantown Bridge	VII-56
XDC1806	Potomac River	Mid-channel: 0.06 mi. N. of bridge.	VII-55
XDC1909	Potomac River	Off Aqualand Deck, 0.06 mi. N. of bridge.	VII-55
XEA1130	Potomac River	Adjacent to dock at Quantico	VII-35
XEA1840	Potomac River	Buoy 44 between Possum Pt. & Moss Pt.	VII-34
XEA6596	Potomac River	Off Indian Head Station	VI-85
XFB2557	Little Hunting Creek	Prince George Co., Va.	VI-60
XFB4051	Little Hunting Creek	Near Sewage Treatment Plant, Fairfax Co., Va.	VI-62
XFB7677	Potomac River	0.1 mi. E. Jones Pt. under Br. in mid-channel	VI-50
ZEK0117	Zekiah Swamp Run	MD Rt. 5 Crossing	VII-60

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC

DIRECTORY INDEX 2

MONITORED STREAM REACHES

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
D2. MONITORED STREAM REACHES

Station	Stream	Location	Page No.
AAR0000	Aaron Run	1.2 MNW of Bloomington along Savage River	II-14
01595300	Abram Creek	Oakmont, Mineral Co., W.Va.	II-9
06	Abrams Creek	Above Sewage Treatment Plant, Frederick Co., Va.	III-17
05	Abrams Creek	Abrams Creek at Route 11, Frederick Co., Va.	III-16
04	Abrams Creek	Below Lake at Route 50, Fredrick Co., Va.	III-18
23	Abrams Creek	Below O'Sullivan Rubr, Frederick Co., Va.	III-18
07	Abrams Creek	Below Sewage Treatment Plant, Frederick Co., Va.	III-18
1AABR007.14	Abrams Creek	Route 11 Bridge at Winchester, Frederick Co., Va.	III-17
1AABR005.80	Abrams Creek	Route 17-50-522 Bridge at Winchester, Va.	III-19
1AABR002.73	Abrams Creek	Route 656/659 Bridge, Frederick Co., Va.	III-19
1AABR000.76	Abrams Creek	Route 7 Bridge at Winchester, Frederick Co., Va.	III-20
1AACC006.13	Accokeek Creek	Route 608 Bridge, Stafford Co., Va.	VII-40
13A	Accotink Bay	Approx. 0.25 mi. N. of mouth at Accotink Bay	VI-69
6G	Accotink Bay	Mouth of Accotink Bay	VI-69
101033	Accotink Creek	Colechester Rd. Bridge Approx. .25 Mi. So. Accotink, Va	VI-68
1AAC0001.78	Accotink Creek	Fort Belvoir, Fairfax Co., Va.	VI-67
01655000	Accotink Creek	Near Accotink Station, Fairfax Co., Va.	VI-66
1AAC0014.57	Accotink Creek	Route 620 Bridge, Fairfax Co., Va.	VI-66
1AAC0009.08	Accotink Creek	Route 636 Bridge, Fairfax Co., Va.	VI-67
AFR0025	Allens Fresh Run	Bridge on MD. Rt. 234	VII-60
101017	Anacostia River	11th Street Bridge, D.C.	VI-38
101014	Anacostia River	Benning Road Bridge, D. C.	VI-35
ANA08	Anacostia River	Benning Road Bridge, D.C.	VI-35
101030	Anacostia River	Bladensburg Rd. Bridge, Anacostia River	VI-32
ANA01	Anacostia River	D. C. Line Bridge	VI-32
101029	Anacostia River	Decatur Rd. Bridge, NE. Branch Of Anacostia River	VI-32
101015	Anacostia River	East Capitol Street Bridge, D. C.	VI-35
TFC01	Anacostia River	Fort Chapin, D.C.	VI-36
TFD01	Anacostia River	Fort Davis, D.C.	VI-38
TDU01	Anacostia River	Fort Dupont, D.C.	VI-36
TFS01	Anacostia River	Fort Stanton, D.C.	VI-39
THR01	Anacostia River	Nash St., N.E., Washington, D.C.	VI-33
TNA01	Anacostia River	Nash Street NE., D.C.	VI-34
ANA14	Anacostia River	Pennsylvania Avenue Bridge, D.C.	VI-37
TPB01	Anacostia River	Pope's Branch, D.C.	VI-37
101031	Anacostia River	Rhode Island Ave Bridge On N.W. Branch Of Anacostia River	VI-30
ANA21	Anacostia River	South Capitol Street Bridge, D.C.	VI-41
TTX27	Anacostia River	Texas Avenue, D.C.	VI-40
TUT01	Anacostia River	Unnamed Tributary, New York & So. Dakota, D.C.	VI-33
PWC04	Anacostia River	Washington Channel, Mile 97-1.1, D.C.	VI-40
101019	Anacostia River	Washington Channel, Mile 97.1.1, D. C.	VI-39
TWB01	Anacostia River	Watts Branch, D.C.	VI-34
01619500	Antietam Creek	1 mile S.E. of Sharpsburg, Washington Co., Md.	III-42
01619000	Antietam Creek	1.9 miles N.E. of Lettersburg, Washington Co., Md.	III-42
ANT0366	Antietam Creek	Antietam Cr. gaging station W. Rt. 60 - Roc. For.	III-33
ANT0203	Antietam Creek	At Bridge on Poffenberger Road	III-41
ANT0241	Antietam Creek	Behind pumping station intersec.of Mt.Aetna Rd. & U.S.40	III-40
ANT0002	Antietam Creek	Bridge on Harper's Rd. at Antietam	III-43
ANT0229	Antietam Creek	Marbern Rd. Bridge West of Funkstown	III-40
ANT0354	Antietam Creek	MD Rt. 60 Bridge	III-34
ANT0254	Antietam Creek	U.S. 40 Bridge	III-40

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
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Station	Stream	Location	Page No.
1AAUA001.91	Aquia Creek	Buoy 10 in Aquia Creek, Stafford Co., Va.	VII-40
1AAUA010.26	Aquia Creek	Route 1 Bridge, Stafford Co., Va.	VII-39
1AAUA019.99	Aquia Creek	Route 610 Bridge, Stafford Co., Va.	VII-38
1AAUA014.51	Aquia Creek	Route 641 Bridge, Stafford Co., Va.	VII-38
1ABAR041.86	Back Creek	Route 522 Bridge, Frederick Co., Va.	II-40
1ABAR032.10	Back Creek	Route 740 Bridge, Frederick Co., Va.	II-41
550465	Back Creek	State Route 45 Bridge, Berkeley Co., W.Va.	II-42
550464	Back Creek	State Route 9 Highway Bridge, Berkeley Co., W.Va.	II-42
BEE0015	Bear Branch	Below John Owings Rd. above all landfill drainage.	V-22
BEE0014	Bear Branch	Below lawful seepages & drains in 1st raingage No. of Rd.	V-23
1AOCC002.47	Belmont Bay	Midway into Bay, Buoy 6, Fairfax Co., Va.	VII-18
01643500	Bennett Creek	Park Mills, Frederick Co., Md.	V-40
BPC0177	Big Pipe Creek	Arters Mill Road, 2 miles S.W. Silver Run	V-24
BPC0035	Big Pipe Creek	Big Pipe Bridge on Briggs Ford Rd.	V-25
BPC0120	Big Pipe Creek	Rt. 32 Bridge, S.E. Taneytown	V-25
BPC0213	Big Pipe Creek	Saw Mill Rd. Bridge, 1 mile S.E. of Union Mills	V-24
1ABIR000.76	Big Rocky Run	Route 29/211 Bridge, Fairfax Co., VA	VII-12
1BBLK003.86	Blacks Run	Route 679 Bridge, Rockingham Co., Va.	IV-27
1BBLK000.57	Blacks Run	Route 704 Bridge, Rockingham Co., Va.	IV-28
1BBLK006.04	Blacks Run	Route 726 Bridge S. of Harrisonburg, Rockingham Co., Va.	IV-26
1BBLK002.10	Blacks Run	Route 988 Bridge, Rockingham Co., Va.	IV-27
1ABRB002.15	Broad Run	Route 7 Bridge, Loudoun Co., Va.	V-53
1ABRU006.65	Broad Run	Southern RR Bridge off Route 28, Prince William Co., Va.	V-52
BSK0013	Brooks Run	MD Rt. 245 crossing, 1.7 miles from MD Rt. 235,	VII-63
550555	Buffalo Creek	State Route 90 Highway Bridge, Grant Co., W.Va.	II-8
16	Buffalo Lick Run	Route 723 Bridge, Frederick Co., Va.	III-15
101035	Bull Run	0.3 Miles Above The Confluence Of Bull Run & Occoquan Cr.	VII-13
1ABUL011.03	Bull Run	Gage Sta. Old Centerville Rd., Prince William Co., VA	VII-12
1ABUL001.57	Bull Run	Route 612 Bridge, Prince William Co., VA	VII-13
550804	Cacapon River	County Route 7 Highway Bridge, Morgan Co., W.va.	II-36
CAPO005	Cacapon River	W.VA Route 9 Bridge at Great Cacapon	II-36
01653000	Cameron Run	Alexandria, Va.	VI-52
1ACAM000.95	Cameron Run	Gaging Station behind Cameron Station, Alexandria, Va.	VI-51
CAR0019	Carroll Creek	Below East Street Bridge	V-35
CAR0017	Carroll Creek	E. Patrick Street Bridge	V-36
CAR0053	Carroll Creek	Rock Springs Rd. Bridge	V-34
CAR0022	Carroll Creek	South Market Street Bridge	V-35
CAC0031	Catoctin Creek	Mouth at Bridge on Rt. 464	V-9
1ACAX000.19	Catoctin Creek	Route 672 Bridge, Loudoun Co., Va.	V-12
1BCDR002.84	Cedar Creek	Route 11 Bridge, Shenandoah Co., Va.	IV-21
1BCDR013.29	Cedar Creek	Route 628 Bridge, Shenandoah Co., Va.	IV-19
1ACER000.20	Cedar Run	Route 619 Bridge, Prince William Co., VA	VII-8
1ACER032.15	Cedar Run	Route 672 Bridge, Fauquier Co., VA	VII-7
1ACER016.46	Cedar Run	Route 806 Bridge, Fauquier Co., VA	VII-8
1ACH0003.65	Chopawamsic Creek	Route 1 Bridge, Prince William Co., Va.	VII-36
1BCST006.43	Christians Creek	Route 254 Bridge, Augusta Co., Va.	IV-39
1BCST016.20	Christians Creek	Route 635 S. of Staunton, Augusta Co., Va.	IV-39
1ACLB000.26	Clearbrook Run	Route 749 Bridge, Frederick Co., Va.	III-24
1ACOA001.74	Coan River	Buoy 14, Northumberland Co., Va.	VII-69
1ACOA002.60	Coan River	Buoy 19, Northumberland Co., Va.	VII-68
1ACOA000.00	Coan River	Buoy 6, mouth of Coan River, Northumberland Co., Va.	VII-70

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
D2. MONITORED STREAM REACHES

Station	Stream	Location	Page No.
1ACOA001.01	Coan River	Buoy 8, Northumberland Co., Va.	VII-69
XAF9685	Coan River	Lat. 37 59 35 Long 76 28 30	VII-68
WQN0501	Conococheague Creek	1.0 mile West of Worleytown, Franklin Co., Pa.	III-6
CON0005	Conococheague Creek	Bridge on Md. Rt. 68	III-10
CON0157	Conococheague Creek	Broadfording Road Bridge	III-8
01614500	Conococheague Creek	Fairview, Washington Co., Md.	III-8
CON0051	Conococheague Creek	Kemps Mill Road Bridge	III-9
CON0210	Conococheague Creek	MD Rt. 58 Bridge	III-7
CON0183	Conococheague Creek	MD. Rt. 494 Bridge	III-7
CON0089	Conococheague Creek	U. S. 40 Bridge	III-8
01614175	Conococheague Creek	Worleytown, Franklin Co., Pa.	III-7
1BCKS003.10	Cooks Creek	Route 11 Bridge, Rockingham Co., Va. 32VASWCB	IV-29
1BCKS007.12	Cooks Creek	Route 701 Bridge at Dayton, Rockingham Co., Va.	IV-28
1BCKS005.10	Cooks Creek	Route 704 Bridge, Rockingham Co., Va.	IV-29
1BCKS001.03	Cooks Creek	Route 867 Bridge at Mt. Crawford, Rockingham Co., Va.	IV-30
1ACUB003.74	Cub Run	Route 29/211 Bridge, Fairfax Co., VA	VII-11
CUN0021	Cunningham Falls	1st x-ing E. of Rt. 77	V-29
CUN0001	Cunningham Falls	Park Rd. X-ing off Catoctin Hollow Road	V-29
DPQ0000	Deep Run	3.7 miles NE of Kitzmiller; via WV Rt's. 42 & 46.	II-11
DIC0020	Dickenson Run	One mile SE New Windsor on Wakefield Valley Rd.	V-27
01646000	Difficult Run	Near Great Falls, Fairfax Co., Va.	V-67
1ADIF000.86	Difficult Run	Route 193 Bridge, Fairfax Co., Va.	V-66
1ADIF004.02	Difficult Run	Route 7 Bridge, Fairfax Co., Va.	V-65
1BDGR000.47	Dog Run	Route 608 Bridge, Clarke Co., Va.	IV-63
1BDGR000.23	Dog Run	Route 621 Bridge near Berryville, Clarke Co., Va.	IV-63
1BDGR003.91	Dog Run	Town of Berryville STP, Clarke Co., Va.	IV-62
1BDGR004.02	Dog Run	Upstream of Town of Berryville STP, Clarke Co., Va.	IV-62
1ADOU002.19	Dogue Creek	Route 623 Bridge, Fairfax Co., Va.	VI-64
15D	Dogue Creek	See FCDPW map.	VI-64
1ADUT000.62	Dutchman Creek	Route 674 Bridge, Loudoun Co., Va.	V-7
01618950	East Branch Antietam Creek	Near Waynesboro, Franklin Co., Pa.	III-33
WQN0504	East Branch Antietam Creek	T-363 bridge, Franklin Co., Pa.	III-32
550556	Elk Run	Elk Run at Route 90 near Henry	II-7
EKL0000	Elklick Run	Elklick Run just above its mouth	II-12
1AFLB000.64	Flat Branch	Route 1501 Bridge, Manassas, Prince William Co., Va.	VII-11
1AFLB001.40	Flat Branch	Route 1530 Bridge, Manassas, Prince William Co., Va.	VII-10
FLA0019	Flat Run	Bridge on US Route 15	V-20
01652500	Four Mile Run	Alexandria, Va.	VI-47
1AFOU001.19	Four Mile Run	Arlington Ridge Road Bridge, Arlington Co., Va.	VI-45
1AFOU000.63	Four Mile Run	Arlington Sewage Treatment Plant, Arlington Co., Va.	VI-45
1AFOU000.19	Four Mile Run	George Washington Parkway Bridge, Arlington Co., Va.	VI-46
1AFOU001.92	Four Mile Run	Route 120 Bridge, Arlington Co., Va.	VI-44
1AFOU004.22	Four Mile Run	Route 244 Bridge, Arlington Co., Va.	VI-43
PMS33	Four Mile Run	Four Mile, D.C.	VI-47
1AGAM003.50	Gambo Creek	Route 301 Bridge, King George Co., Va.	VII-48
1AGAM003.83	Gambo Creek	Route 635 Bridge, King George Co., Va.	VII-47
GE00009	Georges Creek	1 mile north of Westernport	II-15
01599000	Georges Creek	Franklin, Allegany Co., Md.	II-16
GIC0085	Gilbert Creek	Bridge where Keech Rd. meets Oaks Rd. 1.6 miles W. of Oaks	VII-61
GIC0004	Gilbert Creek	MD 234 - Budds Cr. Rd. Bridge	VII-61
1AG00014.44	Goose Creek	Route 15 Bridge, Loudoun Co., Va.	V-48

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D2. MONITORED STREAM REACHES

Station	Stream	Location	Page No.
1AG00044.36	Goose Creek	Route 17 Bridge, Fauquier Co., Va.	V-46
1AG00030.75	Goose Creek	Route 611 Bridge, Fauquier Co., Va.	V-46
1AG00011.23	Goose Creek	Route 621 Bridge, Loudoun Co., Va.	V-49
1AG00002.38	Goose Creek	Route 7 Bridge, Loudoun Co., Va.	V-50
1AG00022.44	Goose Creek	Route 734 Bridge, Loudoun Co., Va.	V-47
GRO0022	Grove Creek	160' d/s STP discharge, just d/s beagle dog house.	III-36
GRO0021	Grove Creek	260' d/s STP discharge, just d/s STP fence corner.	III-36
GRO0015	Grove Creek	2nd X-ing by Ungar Rd. heading east.	III-37
GRO0020	Grove Creek	360' d/s STP discharge, 20' d/s lagoon pipe.	III-36
GRO0023	Grove Creek	60 ft. d/s STP discharge	III-35
GRO0019	Grove Creek	Beards Church Road X-ing.	III-37
GRO0025	Grove Creek	Just d/s Rt. 77 & L. of STP entrance	III-35
GRO0001	Grove Creek	MD. Rt. 77 X-ing.	III-37
GRO0033	Grove Creek	Penna. Ave. X-ing	III-35
1APOH000.21	Gunston Cove	Midway into Cove, Buoy 3, Fairfax Co., Va.	VI-78
7G	Gunston Cove	See FCDPW map.	VI-76
7GS	Gunston Cove	See FCDPW map.	VI-77
7GB	Gunston Cove	See FCDPW map.	VI-77
11G	Gunston Cove	See FCDPW map.	VI-78
12GB	Gunston Cove	See FCDPW map.	VI-79
12GS	Gunston Cove	See FCDPW map.	VI-79
9G	Gunston Cove	See FCDPW map.	VI-80
9GB	Gunston Cove	See FCDPW map.	VI-80
9GS	Gunston Cove	See FCDPW map.	VI-81
8GS	Gunston Cove	See FCDPW map.	VI-82
8GB	Gunston Cove	See FCDPW map.	VI-82
8G	Gunston Cove	See FCDPW map.	VO-81
1BHPLY000.10	Happy Creek	Riverton Junction, Warren Co., Va.	IV-58
1BHPLY002.60	Happy Creek	Route 55 Bridge at Front Royal, Warren Co., Va.	IV-58
1BHKS006.04	Hawksbill Creek	Immediately Below Town of Luray STP, Page Co., Va.	IV-51
1BHKS000.96	Hawksbill Creek	Route 648 Bridge below Luray, Page Co., Va.	IV-52
1BHKS006.23	Hawksbill Creek	Route 675 Bridge in Luray, Page Co., Va.	IV-50
1BHKS005.85	Hawksbill Creek	Town of Luray STP, Page Co., Va.	IV-51
26	High View Manor Pond	High View Manor Pond, Frederick Co., Va.	III-26
20	Hoge Run	Above Opequon Creek, Frederick Co., Va.	III-12
1AHOC007.96	Hogue Creek	Route 50 Bridge, Frederick Co., Va.	III-13
1AHOC003.67	Hogue Creek	Route 522 Bridge, Frederick Co., Va.	III-14
1AHOC006.23	Hogue Creek	Route 679 Bridge, Frederick Co., Va.	III-13
1AHOR003.87	Horsepen Run	Dulles Airport Access Road, Loudoun Co., Va.	V-56
1AHOR002.28	Horsepen Run	Route 775 Bridge, Loudoun Co., Va.	V-57
HWL0000	Howell Run	Access from Kitzmiller-Rt.42 & 46, 3.7 mls.NE Kitzmiller	II-12
1AHUT000.57	Hunting Creek	Alexandria Sewage Treatment Plant, Alexandria, Va.	VI-53
HUN0112	Hunting Creek	D/S dam between dam and blockhouse	V-30
1AHUT000.01	Hunting Creek	George Washington Memorial Parkway, Alexandria, Va.	VI-54
01641000	Hunting Creek	Jimtown, Frederick Co., Md.	V-31
HUN0116	Hunting Creek	Park ent. Rd. X-ing off Catoctin Hollow Rd.	V-28
HUN0097	Hunting Creek	Rd. X-ing at Camp Peniel	V-30
1AHUT001.72	Hunting Creek	Route 611/241 Bridge above STP, Alexandria, Va.	VI-53
INC0051	Indian Creek	Odell Rd. crossing	VI-29
INC0044	Indian Creek	Powder Mill Rd. crossing	VI-29
INC0036	Indian Creek	Sunnyside Ave. crossing	VI-30

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Station	Stream	Location	Page No.
JOR0030	Jordan Swamp	Rt. 382 X-ing, just W. of Mattawoman - Beantown Rd.	VII-59
XBG4111	Lake Conoy	Channel to Potomac	VII-73
XBG4515	Lake Conoy	Eastern Cove	VII-71
XBG4399	Lake Conoy	North of Treasure Island	VII-73
XBG4714	Lake Conoy	Northern Cove	VII-72
XBG4113	Lake Conoy	Southern Cove	VII-71
XBG4599	Lake Conoy	Upper end of Northwest Cove	VII-72
1BLEW006.76	Lewis Creek	Above Farrier Dauling Co. Augusta Co., Va.	IV-35
1BLEW005.68	Lewis Creek	Above Sewage Disposal Discharge, Augusta Co., Va.	IV-36
1BLEW006.64	Lewis Creek	Below Farrier Dauling Co., Staunton, Augusta Co., Va.	IV-35
1BLEW005.40	Lewis Creek	Below Sewage Disposal Discharge, Augusta Co., Va.	IV-36
1BLEW002.80	Lewis Creek	Route 275 Bridge, Augusta Co., Va.	IV-37
1BLEW000.61	Lewis Creek	Route 612 Bridge, Augusta Co., Va.	IV-38
1BLEW006.93	Lewis Creek	Staunton, Augusta Co., Va.	IV-34
1BLEW007.08	Lewis Creek	Staunton, Augusta Co., Va.	IV-34
09	Lick Run	Route 664 Bridge, Frederick Co., Va.	III-23
LIC0004	Licking Creek	U. S. 40 Bridge	II-40
1ALIM001.16	Limestone Branch	Route 15 Bridge, Loudoun Co., Va.	V-43
01642500	Linganore Creek	Near Frederick, Frederick Co., Md.	V-36
550805	Little Cacapon River	Route 2 Highway Bridge, Hampshire Co., W.Va.	II-33
1ALIF001.19	Little Hunting Creek	At Sewage Treatment Plant, Fairfax Co., Va.	VI-61
1ALIF000.19	Little Hunting Creek	George Washington Parkway Bridge, Fairfax Co., Va.	VI-62
XFB4051	Little Hunting Creek	Near Sewage Treatment Plant, Fairfax Co., Va.	VI-62
XFB2557	Little Hunting Creek	Prince George Co., Va.	VI-60
1ALIF002.48	Little Hunting Creek	Route 1 Bridge, Fairfax Co., Va.	VI-61
LPC0144	Little Pipe Creek	Bridge on MD 75	V-28
LPC0199	Little Pipe Creek	Bridge on Rt. 622	V-26
LPC0193	Little Pipe Creek	Church Rd. Bridge below Cops Bridge.	V-27
1BLMN004.84	Long Marsh Run	Route 612 Bridge N.E. of Berryville, Clarke Co., Va.	IV-61
XBE7084	Lower Machodoc	Lat. 38 07 00 Long. 76 38 25	VII-65
MRS0033	Marsh Run	Above confluence with West Branch	III-38
MSH0016	Marsh Run	At USGS Gage, 220 Ft. above bridge on Spreacher Rd.	III-29
MRS0007	Marsh Run	Bridge on Old Forge Rd.	III-39
MRS0000	Marsh Run	Mouth of Marsh Run	III-39
1AMAE000.75	Massey Creek	Harborview Sewage Treatment Plant, Fairfax Co., Va.	VII-17
MAT0013	Mattawoman Creek	100 Ft. due E. of Deep Pt. in Channel	VII-28
MAT0010	Mattawoman Creek	100 Ft. off shore from Burning Site on Deep	VII-29
MAT0016	Mattawoman Creek	500 Yds. NW of Sweden Pt. Marina.	VII-28
MAT0224	Mattawoman Creek	Action Lane crossing	VII-23
MAT0007	Mattawoman Creek	At Black Day Beacon 1	VII-29
MAT0030	Mattawoman Creek	Between N. tip Marsh Island AASE @ old pilings.	VII-27
MAT0078	Mattawoman Creek	MD Rt. 225 crossing	VII-25
MAT0061	Mattawoman Creek	Mid-channel 0.3 mi. U/S From's wharf off Harrison Gut.	VII-26
MAT0051	Mattawoman Creek	Mid-channel 0.3 miles upstream from Mattling's wharf.	VII-26
MAT0076	Mattawoman Creek	Mid-channel where railroad is tangent to creek.	VII-25
MAT0029	Mattawoman Creek	Midway between tip of Bullocks Pt. & tip on North Shore.	VII-27
MAT0134	Mattawoman Creek	Rt. 227 X-ing Mattawoman Cr. Olging Station.	VII-24
MAT0175	Mattawoman Creek	Unnamed Rd. crossing at Bolton just N. of Rt. 228	VII-24
MCN0047	McIntosh Run	Clover Hill-McIntosh Rd. X-ing, 2.5 miles NW Leonardtown.	VII-63
MCN0017	McIntosh Run	MD Rt. 5 crossing, 1.25 miles NW of Leonardtown.	VII-63
MTM0002	Middle Creek	1/4 mile upstream from confluence with Toms Creek	V-19

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Station	Stream	Location	Page No.
1BMDL029.46	Middle River	Route 11 Bridge N.E. of Staunton, Augusta Co., Va.	IV-33
1BMDL034.28	Middle River	Route 626 Bridge, Augusta Co., Va.	IV-32
1BMDL022.09	Middle River	Route 780 Bridge E. of Verona, Augusta Co., Va.	IV-38
MYL0008	Mill Run	MD 6 Bridge	VII-43
MON0269	Monocacy River	Bridge on Biggs Ford Road	V-33
MON0498	Monocacy River	Bridge on Keysville Rd.	V-19
MON0138	Monocacy River	Bridge on MD Rt. 355	V-39
MON0528	Monocacy River	Bridge on MD Rt. 7, Bridgeport	V-17
MON0020	Monocacy River	Bridge on Md. Rt. 28	V-41
MON0155	Monocacy River	Bridge on Reels Mill Road	V-37
01639000	Monocacy River	Bridgeport, Frederick Co., Md.	V-16
MON0299	Monocacy River	Devilbis Bridge on Devilbis Bridge Road	V-32
01641810	Monocacy River	Near Walkersville, Frederick Co., Md.	V-34
01643020	Monocacy River	Reichs Ford Bridge near Frederick, Frederick Co., Md.	V-38
MON0468	Monocacy River	Six Bridge on Sixes Road	V-21
1AMON002.60	Monroe Creek	End of Route 1164, Westmoreland Co., Va.	VII-54
1BMDD001.65	Muddy Creek	Route 734 Bridge, Rockingham Co., Va.	IV-25
XDB4532	Nanjemoy Creek	Mid Channel at Blossom Pt. & Benny Gray Point	VII-43
XDB6719	Nanjemoy Creek	Mid-channel: off mouth of Boot Creek	VII-42
NAJ0100	Nanjemoy Creek	Trappe Bridge, MD 6	VII-42
1ANEA005.15	Neabsco Creek	Above Dale City STP, Prince William Co., VA	VII-19
1ANEA005.06	Neabsco Creek	Dale City STP, Prince William Co., VA	VII-20
1ANEA000.57	Neabsco Creek	Midway into Bay, Prince William Co., VA	VII-22
1ANEA002.89	Neabsco Creek	Route 1 Bridge, Prince William Co., VA	VII-21
1ANEA009.12	Neabsco Creek	Route 640 Bridge, Prince William Co., VA	VII-19
NWC0000	New Creek	Just above confluence with North Br. access from Keyser WV	II-17
XBF8885	Nomini Bay	Lat. 38 08 45 Long. 76 28 30	VII-65
XBD6829	Nomini Creek	Lat. 38 06 45 Long. 76 42 55	VII-64
NBP0004	North Branch Potomac River	0.4 mile above confluence, access on WV side.	II-24
NBP0534	North Branch Potomac River	At Bloomington, upstream from Savage River	II-13
NBP0085	North Branch Potomac River	At Spring Gap	II-24
NBP0461	North Branch Potomac River	Bridge on Rt. 220 near Keyser	II-17
NBP0689	North Branch Potomac River	Downstream of Md. Rt. 38 at Kitzmiller	II-11
01595500	North Branch Potomac River	Kitzmiller, Garrett Co., Md.	II-10
01595800	North Branch Potomac River	Lat. 39 26 44 Long. 79 06 39 at Barnum	II-13
NBP0326	North Branch Potomac River	Md. RR Bridge at Pinto	II-17
01603000	North Branch Potomac River	Near Cumberland, Allegany Co., Md.	II-21
NBP0514	North Branch Potomac River	North Branch at Piedmont	II-16
NBP0196	North Branch Potomac River	North Branch at Wiley Ford Bridge	II-21
01600000	North Branch Potomac River	Pinto, Md.	II-18
NBP0217	North Branch Potomac River	Ridgley Bridge	II-19
550467	North Branch Potomac River	Route 9 Bridge at Pinto, Mineral Co., Md.	II-18
01595000	North Branch Potomac River	Steyer, Garrett Co., Md.	II-8
NBP0023	North Branch Potomac River	Toll bridge at Oldtown	II-24
NBP0597	North Branch Potomac River	USGS Gage at Bridge at Barnum	II-12
NBP0103	North Branch Potomac River	W. of Moores Hollow Rd. & Rt. 51	II-22
NEB0016	North East Branch Anacostia River	Riverdale Rd. X-ing D/S gage.	VI-31
01649500	North East Branch Anacostia River	Riverdale, Prince Georges Co., Md.	VI-30
1ANOF002.14	North Fork Broad Run	Route 29/211 Bridge, Prince William Co., Va.	V-52
1ANOC004.38	North Fork Catoctin Creek	Route 287 Bridge, Loudoun Co., Va.	V-9
1ANOG005.69	North Fork Goose Creek	Route 722 Bridge, Loudoun Co., Va.	V-45

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Station	Stream	Location	Page No.
01606000	North Fork S. Branch Potomac R.	Cabins, Grant Co., W.Va.	II-25
550470	North Fork S. Branch Potomac R.	U.S. 33 Highway Bridge at Judy Gap, Pendleton Co., W.Va.	II-26
01634000	North Fork Shenandoah River	Near Strasburg, Warren Co., Va.	IV-18
1BNFS088.19	North Fork Shenandoah River	Rockingham Poultry Discharge, Rockingham Co., Va.	IV-8
1BNFS072.78	North Fork Shenandoah River	Route 11 Bridge, Shenandoah Co., Va.	IV-14
1BNFS093.53	North Fork Shenandoah River	Route 259 Bridge, Rockingham Co., Va.	IV-6
1BNFS000.69	North Fork Shenandoah River	Route 340/522 Bridge at Front Royal, Warren Co., VA.	IV-23
1BNFS087.02	North Fork Shenandoah River	Route 42 Bridge at Timberville, Rockingham Co., Va.	IV-9
1BNFS010.34	North Fork Shenandoah River	Route 55 Bridge in Strasburg, Shenandoah Co., Va.	IV-17
1BNFS090.16	North Fork Shenandoah River	Route 617 Bridge above Broadway, Rockingham Co., Va.	IV-7
1BNFS081.42	North Fork Shenandoah River	Route 617/953 Bridge W. of New Market, Va.	IV-10
1BNFS037.89	North Fork Shenandoah River	Route 633 Bridge near Woodstock, Shenandoah Co., Va.	IV-16
1BNFS012.98	North Fork Shenandoah River	Route 648 Bridge in Strasburg, Shenandoah Co., Va.	IV-16
1BNFS059.59	North Fork Shenandoah River	Route 675 Bridge E. of Edingburg, Shenandoah Co., Va.	IV-15
1BNFS062.18	North Fork Shenandoah River	Route 698 Bridge S. of Edingburg, Shenandoah Co., Va.	IV-14
1BNFS043.06	North Fork Shenandoah River	Route 758 Bridge near Woodstock, Shenandoah Co., Va.	IV-15
1BNFS076.56	North Fork Shenandoah River	Route 767 Bridge, Shenandoah Co., Va.	IV-12
1BNFS087.81	North Fork Shenandoah River	Shen-Valley Meat Packers Effluent, Rockingham Co., Va.	IV-9
1BNFS088.38	North Fork Shenandoah River	Up from Rockingham Poultry Discharge, Rockingham Co., Va.	IV-7
1BNFS088.00	North Fork Shenandoah River	Up from Shen-Valley Meat Packers, Rockingham Co., Va.	IV-8
01621360	North River	Hwy 11 near Mt. Crawford, Rockingham Co., Va.	IV-30
01621315	North River	Hwy 42 at Bridgewater, Rockingham Co., Va.	IV-26
01625500	North River	Hwy 865 Bridge at Port Republic, Rockingham Co., Va.	IV-32
1BNTH016.24	North River	Route 11 Bridge S. of Mt. Crawford, Rockingham Co., Va.	IV-31
1BNTH020.40	North River	Route 42 Bridge at Bridgewater, Rockingham Co., Va.	IV-25
1BNTH000.18	North River	Route 629/865 Bridge at Port Republic, Rockingham Co., Va.	IV-31
NWA0160	North West Branch Anacostia River	@ abandoned bridge 150' So. Bonifant Rd. X-ing.	VI-27
NWA0171	North West Branch Anacostia River	@ trib., NW Br. Pk Disposal Rd. X-ing	VI-27
01651000	North West Branch Anacostia River	Near Hyattsville, Prince Georges Co., Md.	VI-28
101034	Occoquan Creek	9.8 Miles Above The High Dam In The Occoquan Reservoir	VII-10
101037	Occoquan Creek	Occoquan-Woodbridge Water Supp. Intake Va. Hwy. 123 Bridge	VII-17
1AOCC006.71	Occoquan Creek	Route 123 Bridge, Prince William Co., Va.	VII-16
1AOCC014.34	Occoquan River	Above Ryan's Dam, Fairfax Co., Va.	VII-14
1AOCC011.88	Occoquan River	Jacob's Rock, Fairfax Co., Va.	VII-14
1AOCC024.74	Occoquan River	Route 234 Bridge, Prince William Co., Va.	VII-9
1AOCC019.36	Occoquan River	Route 663 Bridge, Prince William Co., Va.	VII-9
1AOCC008.11	Occoquan River	Under Power Line at Dam, Fairfax Co., Va.	VII-15
1AOCC008.80	Occoquan River	Under Power Line, Fairfax Co., Va.	VII-15
13	Opequon Creek	Above Abrams Creek, Frederick Co., Va.	III-16
01	Opequon Creek	Above Lake at Brtnvl, Frederick Co., Va.	III-11
550764	Opequon Creek	At the Railroad Trestle at Blairton, Berkeley Co., W.Va.	III-28
10	Opequon Creek	Below Turkey Run, Frederick Co., Va.	III-25
550462	Opequon Creek	County Route 12 Highway Bridge, Berkeley Co., W.Va.	III-28
12	Opequon Creek	Opequon Creek at Burnt Factory, Frederick Co., Va.	III-23
24	Opequon Creek	Opequon Creek at Route 660, Frederick Co., Va.	III-26
1AOPE047.44	Opequon Creek	Route 11 Bridge S. of Winchester, Frederick Co., Va.	III-12
1AOPE040.86	Opequon Creek	Route 50 and 17 Bridge, Frederick Co., Va.	III-15
03	Opequon Creek	Route 620 Bridge, Frederick Co., Va.	III-11
15	Opequon Creek	Route 655 Ford, Frederick Co., Va.	III-16
1AOPE023.56	Opequon Creek	Route 667 Bridge, Frederick Co., Va.	III-25
1AOPE032.52	Opequon Creek	Route 7 Bridge at Gaging Station, Frederick Co., Va.	III-20

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
D2. MONITORED STREAM REACHES

Station	Stream	Location	Page No.
01615000	Opequon Creek	State Hwy 7 near Berryville, Frederick Co., Va.	III-21
550463	Opequon Creek	State Route 51 Highway Bridge, Jefferson Co., W.Va.	III-27
11	Opequon Creek	Wadeville, Frederick Co., Va.	III-24
1BPSG001.36	Passage Creek	Route 55 Bridge, Warren Co., Va.	IV-22
550806	Patterson Creek	Route 28 Bridge in Ft. Ashby, Mineral Co., W.Va.	II-23
1APIM000.15	Pimmit Run	Route 120 Bridge, Arlington Co., Va.	VI-12
1APIN000.57	Pine Hill Creek	Route 205 Bridge, King George, Co., Va.	VII-58
PIN0092	Piney Creek	Fringer Rd. Bridge, NE Taneytown	V-18
PIN0062	Piney Creek	MD 97 Bridge, NW Taneytown	V-18
PIS0148	Piscataway Creek	Access P-4A Sludge Disposal Site	VI-57
PIS0099	Piscataway Creek	Brandywine Rd. crossing	VI-58
01653650	Piscataway Creek	Near S. Piscataway, Prince Georges Co., Md.	VI-60
PIS0164	Piscataway Creek	Piscataway Rd. crossing, .1 mile from Roaryville Rd.	VI-57
PIS0033	Piscataway Creek	RT. 210 Crossing	VI-59
PIS0066	Piscataway Creek	Unnamed Rd. crossing Crk. .1 mile from Floral Park Rd.	VI-59
PIS0133	Piscataway Creek	USS Naval Reservation Rd. X-ing (via Dangerfield Rd.)	VI-58
1BPOG000.11	Poague Run	Below Holiday Inn Discharge, Augusta Co., Va.	IV-33
1G	Pohick Creek	Above STP, Rt. 1 Bridge	VI-72
01655390	Pohick Creek	Lorton, Fairfax Co., Va.	VI-71
1APOH005.36	Pohick Creek	Route 1 Bridge above STP, Fairfax Co., Va.	VI-72
1APOH004.79	Pohick Creek	Route 611 Bridge, Fairfax Co., Va.	VI-73
1APOH007.65	Pohick Creek	Route 641 Bridge, Fairfax Co., Va.	VI-70
1APOH015.09	Pohick Creek	Route 645 Bridge, Fairfax Co., Va.	VI-70
101032	Pohick Creek	Rt.1 Br., Approx. 1 Mi. On U.S. Rt. 1 S.W. Of Pohick, Va	VI-73
3G	Pohick Creek	See FCDPW map.	VI-74
2G	Pohick Creek	See FCDPW map.	VI-74
4G	Pohick Creek	See FCDPW map.	VI-75
5G	Pohick Creek	See FCDPW map.	VI-76
10G	Pohick Creek	See FCDPW map.	VI-75
25	Pond Tributary Wrights Run	Pond on Trib. to Wrights Run, Frederick Co., Va.	III-14
XDB9786	Port Tobacco Creek	Just W. of Warehouse Point	VII-46
PTC0006	Port Tobacco Creek	MD 6 crossing	VII-45
XDB6884	Port Tobacco River	Mid-channel: E. of Windmill Point	VII-46
1APOM001.04	Potomac Creek	Buoy 5 Potomac Creek, Stafford Co., Va.	VII-41
XDC1706	Potomac Estuary	Mid-channel at Morgantown Bridge	VII-56
XFB7677	Potomac River	0.1 mi. E. Jones Pt. under Br. in mid-channel	VI-50
XDC0511	Potomac River	0.16 mi. E. Lower Cedar Point	VII-57
XDC0407	Potomac River	0.26 mi. E. FL 33, 803.3, 184.7, near Lower Cedar Pt	VII-57
POT2776	Potomac River	0.3 mi. u/s confl. w/Purslane Run, via Paw Paw, WV	II-34
XDB3853	Potomac River	0.42 naut. mil. W. of C7 & 0.87 mi. SE of Upper Cedar Point	VII-45
POT1798	Potomac River	0.5 mile above mouth of Antietam Cralong C&O Canal Rd.	III-31
XDB3499	Potomac River	0.7 naut. miles SW of mouth of Popes Creek	VII-47
XDB4680	Potomac River	0.8 mi. NE of FL 5 & 0.35 mi. SE of FL 6	VII-44
XBF3080	Potomac River	1400 yds SSW of Cornfield Harbor	VII-70
1APOT113.49	Potomac River	14th St. Bridge, Washington, D.C.	VI-21
XDA8825	Potomac River	1700 yds. W. of Sandy Point	VII-66
XBF6154	Potomac River	250 yds. W. of FL R4, 18 ft. depth	VII-67
POT1532	Potomac River	Above Monocacy Mouth, 2.0 mile below sewer discharge	V-14
101009	Potomac River	Above Sewage Treatment Plant, Mile 96.1, D.C.	VI-48
PMS37	Potomac River	Above Sewage Treatment Plant, Mile 96.1, D.C.	VI-48
14PS	Potomac River	Adjacent ot mouth of Gunston Cove	VI-83

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
D2. MONITORED STREAM REACHES

Station	Stream	Location	Page No.
XEA1130	Potomac River	Adjacent to dock at Quantico	VII-35
14PB	Potomac River	Adjacent to mouth of Gunston Cove	VI-83
XBE9541	Potomac River	At Buoy BW 51B off Ragged Point	VII-65
101028	Potomac River	At Chain Bridge, Mile 106.5, D.C.	VI-13
1APOT081.34	Potomac River	At Shipping Pt., Buoy 43, Charles Co., Md.	VII-30
TBK01	Potomac River	Battery Kimble, D.C.	VI-14
POT1830	Potomac River	Below Bridge on MD. Route 34 (Shepherdstown, WV)	III-30
POT2386	Potomac River	Below bridge on US Rt. 522 in Hancock	II-37
101011	Potomac River	Below Sewage Treatment Plant, Mile 95.3, D.C.	VI-49
1APOT081.89	Potomac River	Below VEPCO's Discharge near Possum Pt., Charles Co., Md.	VII-30
POT2766	Potomac River	Bridge Rt. 51 near Paw Paw, WV	II-34
XDB3321	Potomac River	Buoy 13 off mouth of Nanjemoy Creek	VII-44
XDA4238	Potomac River	Buoy 27 SW of Smith Point	VII-74
XEA1840	Potomac River	Buoy 44 between Possum Pt. & Moss Pt.	VII-34
1APOT101.15	Potomac River	Buoy 75 at Sheridan Pt., Prince George Co., Md.	VII-7
TC006	Potomac River	C & O Canal Fletcher's Boathouse, D.C.	VI-11
TC001	Potomac River	C & O Canal Georgetown, D.C.	VI-17
TDA01	Potomac River	Dalecarlia, Washington, D.C.	VI-12
POT1595	Potomac River	E. end of Br., U.S. Rt. 15 (Point of Rocks, MD)	V-12
PMS10	Potomac River	East Side Of Key Bridge, D.C.	VI-15
POT1471	Potomac River	Eastern Terminus of Whites Ferry	V-42
POT1342	Potomac River	End of Violets Lock Road	V-63
FCWA.pot	Potomac River	FCWA intake, Lowes Island, VA side	V-57
PMS01	Potomac River	Fletchers Boat House, D.C.	VI-11
232017	Potomac River	Fort Washington, Md	VI-55
232016	Potomac River	Forte Foote, Md	VI-55
TFB01	Potomac River	Foundry Branch Park, D.C.	VI-14
POT1635	Potomac River	From bank above Little Catocctin Creek	V-8
101008	Potomac River	Geisboro Point, D. C.	VI-42
PMS29	Potomac River	Hains Point, D.C.	VI-42
514019	Potomac River	Hallowing Point, Va.	VI-84
101005	Potomac River	Highway Bridge, Mile 99.7, D.C.	VI-16
PMS21	Potomac River	Highway Bridge, Mile 99.7, D.C.	VI-16
232015	Potomac River	Marshall Hall, Md	VI-65
POT1661	Potomac River	MD 17 Bridge	V-8
101004	Potomac River	Memorial Bridge, D.C.	VI-20
XCC6634	Potomac River	Mid-channel: Swan Pt. and White Pt.	VII-58
XDC1806	Potomac River	Mid-channel: 0.06 mi. N. of bridge.	VII-55
1APOT079.16	Potomac River	Near Mouth of Chopawamsic Creek, Charles Co., Md.	VII-37
01613000	Potomac River	Near Rt. 522 Br., Hancock, Md.	II-38
01646500	Potomac River	Nr.Washington D.C., L. Falls Pump Sta., Montgomery Cty,MD	V-67
XDC1909	Potomac River	Off Aqualand Deck, 0.06 mi. N. of bridge.	VII-55
XEA6596	Potomac River	Off Indian Head Station	VI-85
XDA5027	Potomac River	Off Smith Point, SP, Charles Co., Md.	VII-36
POT2822	Potomac River	One mile downstream of Town Creek	II-33
101010	Potomac River	Opposite Sewage Reatment Plant, Mile 95.6, D.C.	VI-48
TOR01	Potomac River	Oxon Run Behind Eastgate Mall, D.C.	VI-43
01638500	Potomac River	Point of Rocks, Frederick Co., Md.	V-13
ANA29	Potomac River	Potomac Confluence, D.C.	VI-41
101006	Potomac River	Potomac Park, D.C.	VI-21
550461	Potomac River	Potomac River at Paw Paw, Morgan Co., W.Va.	II-35

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
D2. MONITORED STREAM REACHES

Station	Stream	Location	Page No.
101003	Potomac River	Roosevelt Island, D.C.	VI-17
PMS51	Potomac River	Rosier Bluff, 100 Meters W. Of Buoy, D.C.	VI-52
1APOT170.40	Potomac River	Route 340 Bridge, Loudoun Co., Va.	V-6
POT2753	Potomac River	RR Bridge off of MD 51, 0.5 mile North of Paw Paw	II-34
POT1725	Potomac River	S. of Pleasantville along Harpers Ferry Rd.	III-43
01618000	Potomac River	Shepherdstown, Jefferson Co., WV.	III-31
101002	Potomac River	Three Sisters Island, D. C.	VI-15
PTB01	Potomac River	Tidal Basin	VI-22
101036	Potomac River	Tidal Basin at Independence Ave Bridge	VI-21
POT1707	Potomac River	U.S. 340 Bridge	V-6
WAD.gf	Potomac River	Water supply intake at Great Falls, MD	V-64
PMS44	Potomac River	Woodrow Wilson Bridge, D.C.	VI-49
POTOMAC.LAB	Potomac River	WSSC WTP nr. Watkins Island (Md side)	V-64
1APOW003.11	Powells Creek	Route 1 Bridge, Prince William Co., Va.	VII-23
01658475	Quantico Creek	Above Pyrite Mine near Dumfries, Prince William Co., Va.	VII-33
01658480	Quantico Creek	Near Dumfries, Prince William Co., Va.	VII-32
1AQUA004.46	Quantico Creek	Rt. 1 Br. Prince William Co., VA	VII-33
08	Redbud Run	Off Route 661, Frederick Co., Va.	III-23
1ARED004.45	Redbud Run	Route 11 Bridge, Frederick Co., Va.	III-21
1ARED001.61	Redbud Run	Route 656 Bridge, Winchester, Va.	III-22
1ARED000.46	Redbud Run	Route 659 Bridge, Winchester, Va.	III-22
RCR12	Rock Creek		VI-19
101020	Rock Creek	D.C. Line, Mile 101-9.1, D. C.	VI-18
01638890	Rock Creek	Near Gettysburg, Adams Co., Pa.	V-16
RCM0111	Rock Creek	Rockhold Cr. 1.5 miles above mouth of creek	VI-18
WQN0503	Rock Creek	U.S. 140 bridge near Gettysburg, Adams Co., Pa.	V-15
RCR01	Rock Creek	At Meadowbrook Nature Center	VI-20
RCR09	Rock Creek	Rock Creek At Connecticut Avenue	VI-19
01597500	Savage River	Below Savage River Dam near Bloomington, Garrett Co., Md.	II-15
SAV0037	Savage River	Gaging station 0.7 mile below Savage R. Dam USGS-01597500	II-14
SAV0000	Savage River	MD Rt. 135	II-14
1ASCO000.76	Scott Run	Route 193 Bridge, Fairfax Co., Va.	VI-65
SEN0056	Seneca Creek	Rt. 107 X-ing at Dawsonville	V-62
SHN0002	Shenandoah River	Along river on Harpers Ferry side 5.0 miles below gage.	IV-67
550472	Shenandoah River	County Route 25/7 near Meyerstown, Jefferson Co., W.Va.	IV-65
01636290	Shenandoah River	Hwy 50 Bridge 5 miles S.E. of Millwood, Clarke Co., Va.	IV-60
01636500	Shenandoah River	Millville, Jefferson Co., W.Va.	IV-66
1BSHN054.22	Shenandoah River	Opposite of Front Royal Country Club, Warren Co., Va.	IV-57
1BSHN038.27	Shenandoah River	Route 50 Bridge, Clarke Co., Va.	IV-60
1BSHN048.00	Shenandoah River	Route 624 Bridge, Warren Co., Va.	IV-59
1BSHN022.63	Shenandoah River	Route 7 Bridge, Clarke Co., Va.	IV-64
550471	Shenandoah River	U.S. Route 340 Highway Bridge, Jefferson Co., W.Va.	IV-67
1ASLP034.20	Sleepy Creek	Route 697 Bridge, Frederick Co., Va.	II-39
550466	Sleepy Creek	State Highway 9 Bridge, Morgan Co., W.Va.	II-39
1BSMT010.90	Smith Creek	Route 211 Bridge, Shenandoah Co., Va.	IV-11
1BSMT018.40	Smith Creek	Route 798 Bridge, Rockingham Co., Va.	IV-11
SOU0004	South Branch Potomac River	0.4 miles from mouth of Stickley Road	II-30
550468	South Branch Potomac River	County Route 3 Highway Bridge, Hampshire Co., W.Va.	II-29
550469	South Branch Potomac River	U.S. Route 33 Highway Bridge, Pendleton Co., W.Va.	II-26
550843	South Branch Potomac River	U.S. Rt. 220 Highway Bridge, Hardy Co., W.Va.	II-27
1ASOC011.82	South Fork Catoctin Creek	Route 611 Bridge, Loudoun Co., Va.	V-10

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
D2. MONITORED STREAM REACHES

Station	Stream	Location	Page No.
1ASOC012.38	South Fork Catoctin Creek	Route 690 Bridge, Loudoun Co., Va.	V-10
1ASOC001.66	South Fork Catoctin Creek	Route 698 Bridge near Waterford, Loudoun Co., Va.	V-11
01658650	South Fork Quantico Creek	Near Dumfries, Prince William Co., Va.	VII-31
01658500	South Fork Quantico Creek	Near Independent Hill, Prince William Co., Va.	VII-32
1ASOQ006.73	South Fork Quantico Creek	Route 619 Bridge, Prince William Co., Va.	VII-31
1BSSF054.20	South Fork Shenandoah River	Route 211 Bridge E. of New Market, Page Co., Va.	IV-49
1BSSF085.08	South Fork Shenandoah River	Route 33 Bridge, Rockingham Co., Va.	IV-48
1BSSF060.57	South Fork Shenandoah River	Route 340 Bridge, Page Co., Va.	IV-49
1BSSF078.24	South Fork Shenandoah River	Route 602 Bridge, Rockingham Co., Va.	IV-48
1BSSF092.69	South Fork Shenandoah River	Route 649 Bridge, Rockingham Co., Va.	IV-47
1BSSF100.07	South Fork Shenandoah River	Route 659 Bridge near Lynwood, Rockingham Co., Va.	IV-47
1BSSF004.23	South Fork Shenandoah River	1 Mile Upstream of Route 619 Bridge, Warren Co., Va.	IV-53
01631000	South Fork Shenandoah River	Front Royal, Warren Co., Va.	IV-57
01628250	South Fork Shenandoah River	Hwy 659 Bridge at Lynwood, Rockingham Co., Va.	IV-46
1BSSF000.58	South Fork Shenandoah River	Route 340/522 Bridge at Front Royal, Warren Co., Va.	IV-55
1BSSF003.56	South Fork Shenandoah River	Route 619 Bridge at Gaging Station, Warren Co., Va.	IV-54
1BSSF046.67	South Fork Shenandoah River	Route 675 Bridge W. of Luray, Page Co., Va.	IV-53
1BSTH023.70	South River	Route 250 Bypass in Waynesboro, Augusta Co., Va.	IV-43
1BSTH038.50	South River	Route 608 Bridge, Augusta Co., Va.	IV-40
1BSTH018.50	South River	Route 611 Bridge near Dooks, Augusta Co., Va.	IV-43
1BSTH014.49	South River	Route 612 Bridge at Crimora, Augusta Co., Va.	IV-44
1BSTH000.19	South River	Route 629 Bridge at Port Republic, Rockingham Co., Va.	IV-46
1BSTH030.80	South River	Route 632 Bridge, Augusta Co., Va.	IV-41
1BSTH033.50	South River	Route 634 Bridge, Augusta Co., Va.	IV-40
1BSTH028.51	South River	Route 653 Bridge S. of Waynesboro, Augusta Co., Va.	IV-41
1BSTH027.10	South River	Route 664 Bridge, Waynesboro, Va.	IV-42
1BSTH007.80	South River	Route 778 at Harrisonburg, Augusta Co., Va.	IV-45
XCD4364	St. Clement Bay	400 yds. SW of Long Point	VII-64
1BSTV002.92	Stephens Run	Route 640 Bridge below Stephens City, Fredrick Co., Va.	IV-59
1BSTY001.22	Stony Creek	Route 11 Bridge, Shenandoah Co., Va.	IV-13
1BSTY006.81	Stony Creek	Route 675 Bridge, Shenandoah Co., Va.	IV-12
550891	Stony River	.75 miles below Mt. Storm Dam, Grant Co., W.Va.	II-6
550554	Stony River	U.S. Route 50 Highway Bridge, Grant Co., W.Va.	II-6
02	Stribling Run	Route 621 Bridge, Frederick Co., Va.	III-11
1ASUG004.42	Sugarland Creek	Route 7 Bridge	V-55
1ASUG008.46	Sugarland Run	Route 606 Bridge, Fairfax Co., Va.	V-54
TFR0000	Three Forks Run	Above confluence with N. Branch, 2 miles NE of Kitzmiller	II-11
TOM0061	Toms Creek	Bridge on Creamery Road	V-19
TOM0003	Toms Creek	Bridge on Sixes Road	V-20
TOM0038	Toms Creek	Fourpoints Bridge on Keysville Road	V-20
TOC0001	Tonoloway Creek	Near mouth Rt. 144 X-ing.	II-38
TOW0030	Town Creek	Near bridge on Oldtown Road	II-31
TOW0013	Town Creek	Town Cr. where X'd by MD 51 near Cardinal Club in Town Cr.	II-32
TUC0008	Tuscarora Creek	0.6 mile SW Licksville, Farthest downstream bridge.	V-14
550766	Tuscarora Creek	County Route 36 Highway Bridge, Berkeley Co., W.Va.	III-29
1ATUS003.19	Tuscarora Creek	Route 643 Bridge, Loudoun Co., Va.	V-43
1ATUS000.37	Tuscarora Creek	Route 653 Bridge, Loudoun Co., Va.	V-44
URG0015	Unnamed Tributary	0.1 mi. D/S Schaeffer Rd. 1.4 mi. W./Rt.118 Brownstown	V-60
UWR0000	Unnamed Tributary	0.6 mile N. of Kemps on Kemps Mill Rd.	III-9
UQK0004	Unnamed Tributary	100 Yds. below pond, S. MD Wood Treating Co., W. Hollywood.	VII-62
UIC0015	Unnamed Tributary	1000 Ft. below mineral pigments outfall	VI-28

STATUS AND TRENDS OF TOXIC PARAMETERS IN THE POTOMAC
D2. MONITORED STREAM REACHES

Station	Stream	Location	Page No.
UDN0009	Unnamed Tributary	30 Ft. right of Bryants Nursery Rd., 9 mile from New H.Ave.	VI-26
UDN0013	Unnamed Tributary	300 Ft. Down Rd. rt.of Bryants Nursery Rd. 7 mile from N.H.	VI-25
URE0003	Unnamed Tributary	Above fill area, John Owings Road, above undergrnd pipe.	V-23
UQL0001	Unnamed Tributary	Access P-4A sludge disposal site (MES Project).	VI-55
UQT0001	Unnamed Tributary	Access P-4A sludge disposal site (MES Project).	VI-56
UQW0001	Unnamed Tributary	Access P-4A sludge disposal site (MES Project).	VI-56
UIC0007	Unnamed Tributary	Amendale Rd. crossing	VI-29
UOW0001	Unnamed Tributary	First Rd. W. New Hampshire Ave., N. of MD 198	VI-24
UQI0003	Unnamed Tributary	First trib. E. of Clover Hill Rd., 1 mile from 235.	VII-62
URG0017	Unnamed Tributary	Just above first trib. above Schaeffer Road.	V-59
UDJ0000	Unnamed Tributary	Just above first trib. Schaeffer Rd. (settling basin)	V-59
UQJ0010	Unnamed Tributary	Morgan Rd. X-ing of 1st trib.Brooks Run. N & W of Rt. 245.	VII-62
UHK0000	Unnamed Tributary	Mouth 1st trib. entering URG from NW D/S Schaeffer Rd.	V-62
UHL0000	Unnamed Tributary	Mouth 1st trib.entering URG from the E.above Schaeffer Rd	V-60
UHM0001	Unnamed Tributary	Mouth of 1st. trib. to URG from W. U/S Schaeffer Rd	V-58
UHM0000	Unnamed Tributary	Mouth of 1st. trib. to URG from W. U/S Schaeffer Rd.	V-58
UWN0002	Unnamed Tributary	On MD Rt.5 just SE of MD 382 junction	VII-59
UIC0016	Unnamed Tributary	Opposite of mineral pigments co. across RR tracks and Rt.1.	VI-28
URE0001	Unnamed Tributary	Outfall from lower pond.	V-23
UOK0001	Unnamed Tributary	Right of Bryants Nursery Rd.,.7 mile from N. Hampshire Ave.	VI-24
UHK0002	Unnamed Tributary	Schaeffer Rd. X-ing, 1st. drainage W.of trib.URG	V-61
UHK0001	Unnamed Tributary	Schaeffer Rd. X-ing, first drainage W. of Trib. URG	V-61
UOK0008	Unnamed Tributary	Treeline 1000 Ft.S.of Pool Road.	VI-22
UOK0006	Unnamed Tributary	Treeline 1000 Ft.S.of Pool Road.	VI-23
UOK0004	Unnamed Tributary	Treeline 1000 Ft.S.of Pool Road.	VI-23
UKM0017	Unnamed Tributary	Unnamed Farm Rd.off Sullivan Rd.0.1 mi.W MD 27 intersec.	V-21
UKM0015	Unnamed Tributary	Unnamed farm road 0.3 mi.NE intersec. MD 27 & Sullivan Rd.	V-22
UIL0002	Unnamed Tributary	W. New Hampshire Ave., N. of MD 198 (settling basin B).	VI-26
UPS0004	Unnamed Tributary	X-ing Old Orchard Rd. .15 mile from Ednor Road.	VI-25
XCB9070	Upper Machodoc	Lat. 38 19 00 Long. 77 03 00	VII-51
1AUMC002.32	Upper Machodoc Creek	At Power Cables, King George Co., Va.	VII-53
1AUMC000.61	Upper Machodoc Creek	King George Co., Va.	VII-53
1AMUC001.36	Upper Machodoc Creek	Near Mouth of Williams Creek, King George Co., Va.	VII-54
1AUMC004.43	Upper Machodoc Creek	Route 218 Bridge, King George Co., Va.	VII-52
1AUMC009.61	Upper Machodoc Creek	Route 301 Bridge, King George Co., Va.	VII-51
WDS0018	Wards Run	MD 6 Bridge	VII-41
WMR0000	West Branch	0.4 mile below Marsh Pike.	III-39
WMR0004	West Branch	Bridge on Marsh Pike, No. of Paramount.	III-38
WMR0011	West Branch	Bridge on Paradise Church Road	III-38
1AWLL000.00	Williams Creek	At Mouth, King George Co., Va.	VII-50
1AWLL001.30	Williams Creek	Route 206 Bridge near Dahlgren, King George Co., Va.	VII-49
1AWLL002.21	Williams Creek	Route 301 Bridge, King George Co., Va.	VII-49
1AWLL003.02	Williams Creek	Route 624 Bridge N. of Dahlgren, King George Co., Va.	VII-48
01601500	Wills Creek	Cumberland, Allegany Co., Md.	II-20
WIL0013	Wills Creek	Gaging Station - Confl/Braddock Run	II-20
XBE1722	Yeocomico River	Lat. 38 01 40 Long. 76 38 25	VII-67
ZEK0117	Zekiah Swamp Run	MD Rt. 5 Crossing	VII-60

NAME	RESIDENCE	DATE
ALAN T. BROWN	1234 N. LAUREL ST.	1952
ALICE M. CLARK	567 E. MAPLE AVE.	1953
ARTHUR J. DAVIS	890 W. PINE ST.	1954
BETTY L. GREEN	210 S. OAK ST.	1955
CHARLES R. HARRIS	345 N. CEDAR ST.	1956
DAVID K. JONES	678 E. BIRCH AVE.	1957
ELEANOR M. SMITH	901 W. WALNUT ST.	1958
FREDERICK S. WALKER	123 S. PINE ST.	1959
GRACE A. BROWN	456 N. MAPLE AVE.	1960
HENRY J. CLARK	789 E. OAK ST.	1961
IRVING L. DAVIS	101 W. PINE ST.	1962
JANE M. GREEN	234 N. CEDAR ST.	1963
JOHN R. HARRIS	567 E. BIRCH AVE.	1964
KATHLEEN S. JONES	890 W. WALNUT ST.	1965
LAWRENCE T. SMITH	123 S. PINE ST.	1966
MARGARET A. WALKER	456 N. MAPLE AVE.	1967
NATHAN J. BROWN	789 E. OAK ST.	1968
OLIVER M. CLARK	101 W. PINE ST.	1969
PATRICIA L. DAVIS	234 N. CEDAR ST.	1970
ROBERT S. GREEN	567 E. BIRCH AVE.	1971
SARAH A. HARRIS	890 W. WALNUT ST.	1972
THOMAS J. JONES	123 S. PINE ST.	1973
WALTER M. SMITH	456 N. MAPLE AVE.	1974
XENIA L. WALKER	789 E. OAK ST.	1975
YOUNG J. BROWN	101 W. PINE ST.	1976
ZACHARY M. CLARK	234 N. CEDAR ST.	1977
ADAM R. DAVIS	567 E. BIRCH AVE.	1978
AMANDA S. GREEN	890 W. WALNUT ST.	1979
BENJAMIN T. HARRIS	123 S. PINE ST.	1980
CHARLOTTE A. JONES	456 N. MAPLE AVE.	1981
DAVID J. SMITH	789 E. OAK ST.	1982
ELEANOR M. WALKER	101 W. PINE ST.	1983
FREDERICK S. BROWN	234 N. CEDAR ST.	1984
GRACE A. CLARK	567 E. BIRCH AVE.	1985
HENRY J. DAVIS	890 W. WALNUT ST.	1986
IRVING L. GREEN	123 S. PINE ST.	1987
JANE M. HARRIS	456 N. MAPLE AVE.	1988
JOHN R. JONES	789 E. OAK ST.	1989
KATHLEEN S. SMITH	101 W. PINE ST.	1990
LAWRENCE T. WALKER	234 N. CEDAR ST.	1991
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WALTER M. WALKER	567 E. BIRCH AVE.	1999
XENIA L. BROWN	890 W. WALNUT ST.	2000
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ELEANOR M. BROWN	123 S. PINE ST.	2008
FREDERICK S. CLARK	456 N. MAPLE AVE.	2009
GRACE A. DAVIS	789 E. OAK ST.	2010
IRVING L. GREEN	101 W. PINE ST.	2011
JANE M. HARRIS	234 N. CEDAR ST.	2012
JOHN R. JONES	567 E. BIRCH AVE.	2013
KATHLEEN S. SMITH	890 W. WALNUT ST.	2014
LAWRENCE T. WALKER	123 S. PINE ST.	2015
MARGARET A. BROWN	456 N. MAPLE AVE.	2016
NATHAN J. CLARK	789 E. OAK ST.	2017
OLIVER M. DAVIS	101 W. PINE ST.	2018
PATRICIA L. GREEN	234 N. CEDAR ST.	2019
ROBERT S. HARRIS	567 E. BIRCH AVE.	2020
SARAH A. JONES	890 W. WALNUT ST.	2021
THOMAS J. SMITH	123 S. PINE ST.	2022
WALTER M. WALKER	456 N. MAPLE AVE.	2023
XENIA L. BROWN	789 E. OAK ST.	2024
YOUNG J. CLARK	101 W. PINE ST.	2025
ZACHARY M. DAVIS	234 N. CEDAR ST.	2026
ADAM R. GREEN	567 E. BIRCH AVE.	2027
AMANDA S. HARRIS	890 W. WALNUT ST.	2028
BENJAMIN T. JONES	123 S. PINE ST.	2029
CHARLOTTE A. SMITH	456 N. MAPLE AVE.	2030

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