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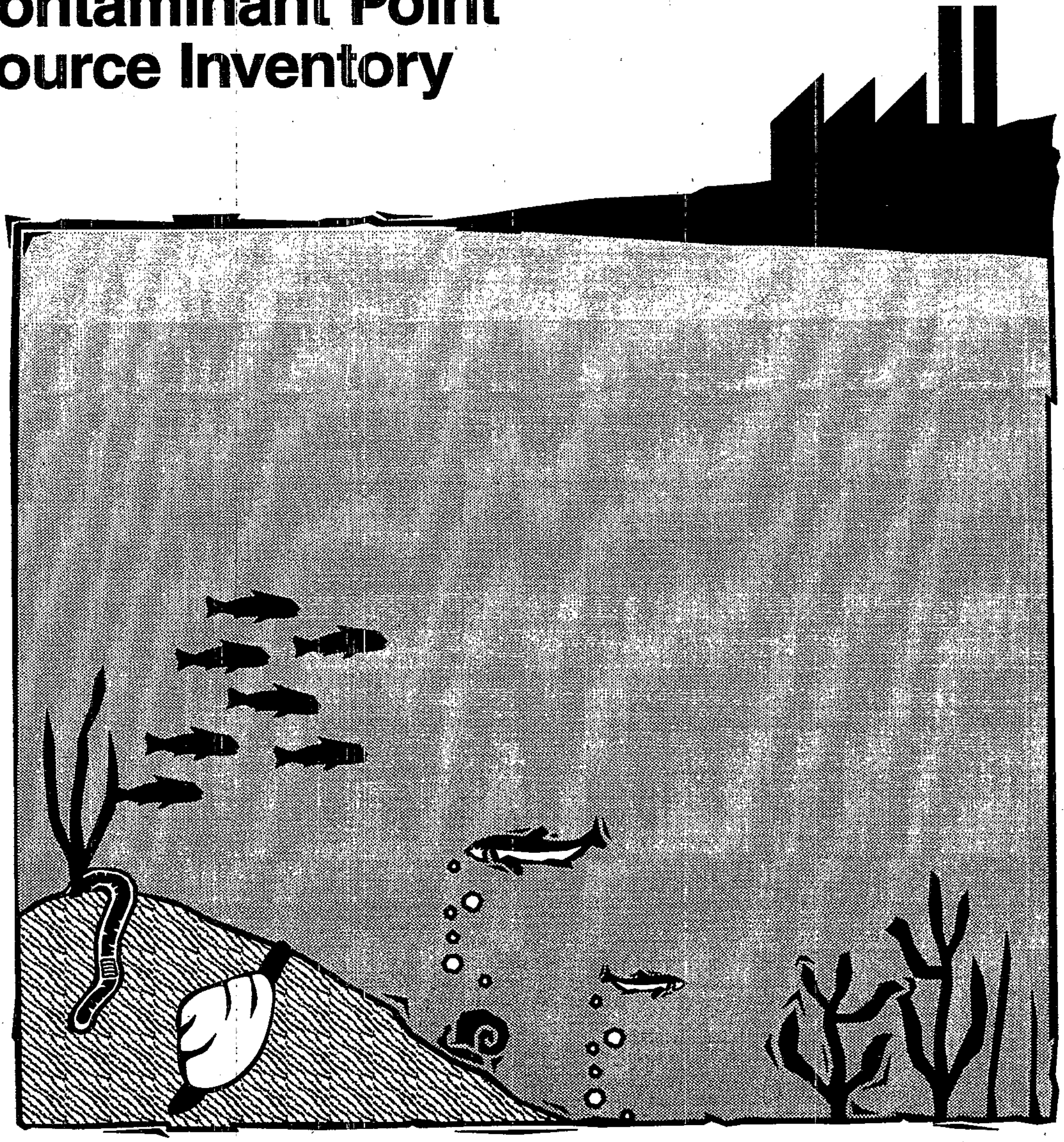
The Incidence And Severity Of Sediment Contamination In Surface Waters Of the United States

Volume 3: National Sediment Contaminant Point Source Inventory



The Incidence And Severity Of Sediment Contamination In Surface Waters Of The United States:

Volume 3: National Sediment Containment Point Source Inventory

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Office of Science and Technology
United States Environmental Protection Agency
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The *National Sediment Contaminant Point Source Inventory* is a database of point source pollutant discharges that may result in sediment contamination, and a screening-level analysis of chemicals, geographic areas, and industries based on potential to cause sediment contamination. The data and information contained in this document could be used in various EPA regulatory programs for priority setting or other purposes after further evaluation using program-specific criteria. However, this document has no immediate or direct regulatory consequence. It does not in itself establish any legally binding requirements, establish or affect legal rights or obligations, or represent a determination of any party's liability.

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Acknowledgments

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Executive Summary

During the past two decades, the U.S. Environmental Protection Agency (EPA) has focused its water pollution control efforts on protecting water quality within the water column. This has been accomplished primarily by controlling municipal and industrial point sources. More recently, EPA has begun to direct its efforts toward identifying and controlling other threats to the aquatic environment, including the accumulation of toxic chemicals in sediment. The Water Resources Development Act of 1992 (WRDA) directed EPA, in consultation with the National Oceanic and Atmospheric Administration and the Army Corps of Engineers, to conduct a comprehensive national survey of data regarding aquatic sediment quality in the United States. The Act required EPA to compile all existing information on the quantity, chemical and physical composition, and geographic location of pollutants in aquatic sediment, including the probable source of such pollutants and identification of those sediments which are contaminated. The Act further required EPA to report to the Congress the findings, conclusions, and recommendations of such survey, including recommendations for actions necessary to prevent contamination of aquatic sediments and to control sources of contamination. Volume 3 of this report (this volume) addresses point sources. Volume 4 of this report, when completed, will address nonpoint sources. Chapter 4 of Volume 1 of this report describes all probable source categories.

EPA's Office of Science and Technology (OST) has led the Agency's efforts to compile and analyze data for the National Sediment Contaminant Point Source Inventory. The screening-level sediment contaminant load analysis developed for and applied to this study cannot be used alone to predict sediment contamination or to indicate where contaminated sediment problems have occurred or who is responsible. The major objectives of the inventory and the analysis presented in this report are as follows:

- Generate a relative ranking of chemicals and industrial categories based on 1993 Toxic Release Inventory (TRI) and 1994 Permit Compliance System (PCS) chemical release data.

- Prioritize watersheds for collection of additional information that might lead to the identification of additional monitoring needs or pollution prevention opportunities.

- Establish a baseline to which additional or future inventories can be compared.

The inventory includes more than 25,500 individual TRI and PCS records of point source pollutant releases of 111 different chemicals. Approximately 1,020 individual watersheds and 31 distinct industrial categories are represented. In general, areas that are population centers and are associated with industrial activity receive the greatest amount of potential sediment contaminants from point sources. Direct releases of potential sediment contaminants from 4,869 facilities in PCS totaled nearly 19 million lb/yr in 1994. From 1993 TRI data, direct releases and transfers to POTWs of potential sediment contaminants from 3,432 manufacturing facilities totaled 7.3 million lb/yr. The inventory is limited by the quality, quantity, coverage, and bias of the release data in TRI and PCS.

EPA developed and employed a screening-level load analysis procedure to achieve the objectives of this study. The "Load Score" is a unitless index of the magnitude of potential sediment contamination based on chemical/facility-specific releases, physical and chemical properties, and potential environmental risk. The loading analysis is limited by the lack of consideration of site-specific information, the lack of pollutant transport analysis, and the uncertainty associated with the components of the chemical-specific sediment hazard scores. For these reasons, the results of the loading analysis should be used for screening purposes only, not as a definitive judgment regarding the most significant sediment contaminants, the most affected watersheds, or the most important industrial categories.

This analysis indicates that metals and organic chemicals that can cause or contribute to contamination of sediment continue to be released from point sources. Although important in some instances, releases of PAHs, pesticides, and PCBs appear to be less prevalent than releases of metals and other organic compounds. The loading analysis relies on correlative, statistically based threshold values to evaluate the potential adverse effects of metals in sediment. Although these correlative thresholds are useful, they are limited in their application because they do not directly address the bioavailability of metals in sediment. This report further emphasizes the need for the development of practical assessment tools to evaluate the bioavailability and toxicity of metals in sediment.

The data analysis based on release data from TRI and PCS indicates that certain industrial categories have a high potential for contributing to sediment contamination. Sewerage systems, with nearly 2,000 facilities in PCS, represent more than one-half of the total Load Score of all the data analyzed in PCS and TRI together. Sixty-one percent of the Load Score for sewerage systems is from the five divalent metals. The Metal Products and Finishing, Primary Metal Industries, and Industrial Organic Chemicals categories were ranked in the top five industrial categories in terms of Load Score for both PCS and TRI. Other industrial categories ranked in the top five for either TRI or PCS include Public Utilities (other than sewerage systems), Petroleum Refining, and Other Chemical Products. Although TRI and PCS contain extensive records from most of the large dischargers, these data represent a limited, and somewhat biased, segment of the overall discharger community. Some industrial categories are not well represented in either PCS or TRI. Thus, these results reflect data availability as much as relative sediment hazard potential.

Total Load Scores at the watershed level ranged from 0 to 312. Of the 1,020 watersheds evaluated, 17 watersheds were placed in priority group 1 (Load Score greater than 80), 19 watersheds were placed in priority group 2 (Load Score range 61-80), 29 watersheds were placed in priority group 3 (Load Score range 41-60), 87 watersheds were placed in priority group 4 (Load Score range 21-40), and 672 watersheds were placed in priority group 5 (Load Score range 1-20). One hundred ninety-six watersheds had a Load Score of zero and were not assigned to a priority group. Figure ES-1 shows the location of watersheds in priority groups 1, 2 , 3, and 4.

The watersheds identified in this analysis represent areas where sediment contaminants are discharged; they do not necessarily represent locations where sediment contamination has occurred or will occur. As defined by the U.S. Geological Survey 8-digit cataloging unit, watersheds can represent large areas that vary greatly in size, shape, and physical/

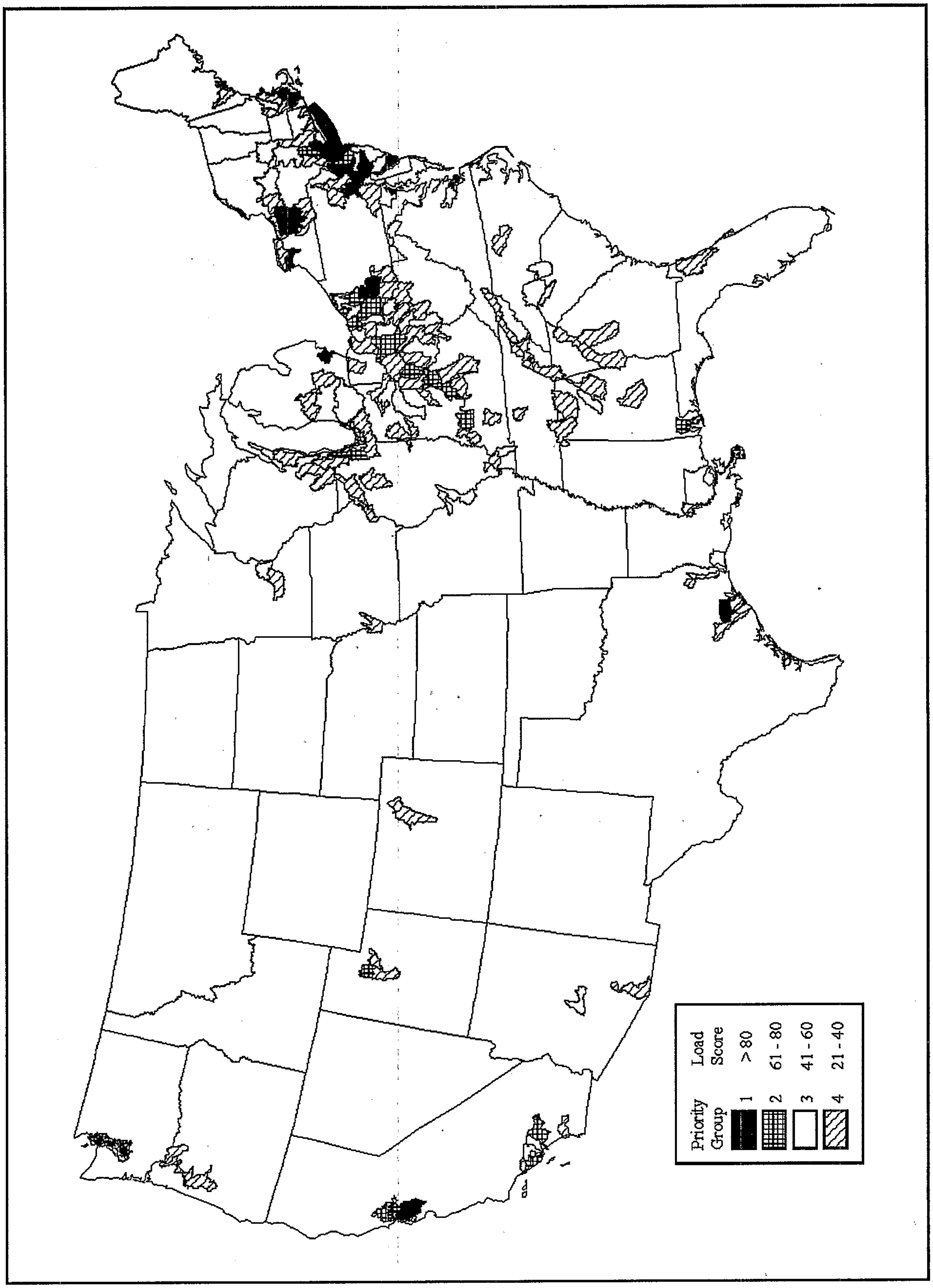

Figure ES-1. Load Score by watershed.

characteristics encompassing large mainstem rivers and small tributary streams. Transport, sediment partitioning, and sediment accumulation—whether in locations very close to the point of discharge or far downstream—depend on many factors, including streamflow, stream velocity, geomorphology, particle size distribution, organic carbon content, suspended sediment load, temperature, pH, and salinity. However, comparison with existing sediment monitoring data provides further means of screening watersheds where point sources are more likely to contribute to contamination.

The general relationship between annual point source releases and results reported in Volume 1: *National Sediment Quality Survey* demonstrates a co-occurrence of active discharges of sediment contaminants and evidence of sediment contamination. A watershed with a high Load Score is more likely to contain one of the 96 areas of probable concern for sediment contamination (APCs) in the *National Sediment Quality Survey*. For priority group 1, 75 percent of the watersheds contain APCs. For priority groups 2 and 3, 37 and 35 percent of the watersheds contain APCs, respectively. For priority group 4, 21 percent of the watersheds contain APCs. Finally, for priority group 5, 8 percent of the watersheds contain APCs. Less than 1 percent of the watersheds with a zero Load Score contain APCs.

While this analysis does not imply that point sources caused the in-place contamination, it emphasizes the potential significance of contaminant releases in areas already contaminated. There are many sources of sediment contaminants in watersheds, both active and historical, point and nonpoint. This assessment identifies specific watersheds where active point sources might play an important role. To promote natural recovery of contaminated areas, active dischargers must be adequately controlled to ensure that their releases do not perpetuate contamination problems.

The draft EPA report *Environmental Goals for America With Milestones for 2005* (USEPA, 1996a) proposes that the Agency, together with its state partners, adequately control point sources of contamination over the next 10 years in 10 percent of the watersheds where sediment contamination is widespread. Specifically, major facility discharge limits need to be evaluated and appropriately revised in watersheds at greatest risk from active discharges. The objective of these evaluations should be to determine whether existing technology-based controls or water quality-based discharge limits protect downstream sediment quality to the degree necessary for natural recovery of contaminated sites. EPA is currently developing the methodology to relate point source contributions to sediment contaminant concentrations. This methodology is needed before developing permit limits protective of sediment quality. This report identifies 29 watersheds that both contain APCs based on the *National Sediment Quality Survey* and are in Load Score priority group 1, 2, or 3 based on this analysis. These watersheds should be considered for further evaluation and necessary action to achieve the milestone in EPA's Goals Report.

Chapter 1

Introduction

During the past two decades, the U.S. Environmental Protection Agency (EPA) has focused its water pollution control efforts on protecting water quality within the water column. This has been accomplished primarily by controlling municipal and industrial point sources. More recently, EPA has begun to direct its efforts toward identifying and controlling other threats to the aquatic environment, including the accumulation of toxic chemicals in sediment. Because many different Agency program offices are involved in addressing the nationwide problem of contaminated sediments, EPA established an Agency-wide steering committee in 1989 to oversee the development of a Contaminated Sediment Management Strategy (CSMS). The purpose of the proposed CSMS is to coordinate the Agency's efforts to assess, prevent, and remediate contaminated sediment that poses environmental and human health risks.

The Water Resources Development Act of 1992 (WRDA) directed EPA, in consultation with the National Oceanic and Atmospheric Administration and the Army Corps of Engineers, to conduct a comprehensive national survey of data regarding aquatic sediment quality in the United States. The Act required EPA to compile all existing information on the quantity, chemical and physical composition, and geographic location of pollutants in aquatic sediment, including the probable source of such pollutants and identification of those sediments which are contaminated. The Act further required EPA to report to the Congress the findings, conclusions, and recommendations of such survey, including recommendations for actions necessary to prevent contamination of aquatic sediments and to control sources of contamination. Volume 3 of this report (this volume) addresses point sources. Volume 4 of this report, when completed, will address nonpoint sources. Chapter 4 of Volume 1 of this report describes all probable source categories.

EPA's Office of Science and Technology (OST) initiated work several years ago on the development of a National Sediment Inventory (NSI) through a series of pilot inventories, planning meetings, and national workshops. Recently, various data indicative of sediment quality have been compiled into an integrated data set. The evaluation of the sediment quality data was documented in Volume 1: *National Sediment Quality Survey* (hereafter referred to as the Survey). The Survey evaluation serves as a means of screening and targeting, and it identifies 96 watersheds containing areas of probable concern for sediment contamination (APCs). OST's Survey and the Office of Policy, Planning, and Evaluation's (OPPE's) draft National Goals Report both call for further evaluation of these watersheds. Further evaluation entails performing additional site characterization based on sediment chemistry and related biological data, determining temporal and spatial trends, assessing human health and ecological risks, identifying potential sources of sediment contamination, and determining whether potential sources are adequately controlled. The end result of these efforts should be a judgment whether natural recovery is a feasible option for risk reduction.

To proceed with the identification of potential sources of sediment contaminants, OST initiated two related efforts to identify, characterize, and evaluate the potential importance of nonpoint and point source discharges of pollutants that might contribute to sediment of nonpoint and point source discharges of pollutants that might contribute to sediment contamination. The nonpoint source assessment effort focuses on collecting information on contributions primarily from agricultural lands, inactive and abandoned mine sites, urban areas, and atmospheric deposition. The corresponding effort to assess active point source releases and to identify watersheds where such releases might contribute to sediment contamination is the focus of this volume.

OST is leading EPA's efforts to complete a National Sediment Contaminant Point Source Inventory. Collection and analysis of data describing sources of contaminated sediment will help provide an understanding of the potential magnitude and extent of contamination problems in the Nation's freshwater and estuarine sediments. The inventory will be useful to help locate potentially contaminated sites for additional monitoring and to integrate sediment sampling into existing water quality monitoring programs. The Point Source Inventory will also be a useful source of information for identifying pollution prevention opportunities and other source control efforts.

Objectives of Point Source Inventory and Analysis

Identifying, locating, and assessing all potential sources of sediment contamination on a nationwide basis is a major undertaking. Potentially significant sources of sediment contamination include municipal sewage treatment facilities, storm water discharges and combined sewer overflows, urban and agricultural runoff, industrial discharges of process wastewater, leachate from hazardous waste sites, and atmospheric deposition from point and mobile source emissions. Industrial dischargers that are no longer active, poor-quality effluent in years prior to effective treatment, and spills are important historical sources of existing sediment contamination that are difficult to identify. The Point Source Inventory is a compilation of the most recent available documented releases of known sediment contaminants from active municipal, industrial, and federal facilities. The major objectives of this inventory and the analysis presented in this report are as follows:

- Generate a relative ranking of chemicals and industrial categories based on 1993 Toxic Release Inventory (TRI) and 1994 Permit Compliance System (PCS) chemical release data.

- Prioritize watersheds for collection of additional information that might lead to the identification of additional monitoring needs or pollution prevention opportunities.

- Establish a baseline to which additional or future inventories can be compared.

Chapter 2 of this report describes the data sources used to develop the Point Source Inventory. Chapter 3 describes the data sources, assumptions, and algorithms used to develop the screening-level chemical load scores. Chapter 4 presents a summary of the results in relationship to chemicals and chemical classes, watersheds, and industrial categories. Appendix A contains the data used to develop chemical load scores for individual chemicals. Appendix B presents the results of the watershed priority groupings, and Appendix C includes detailed results of the analysis by industrial category.

Anticipated Uses

EPA's proposed Contaminated Sediment Management Strategy (CSMS) calls for the Agency to compile data, perform analyses, and develop tools that will allow integration of sediment contamination concerns into existing EPA program office activities, including:

- Targeting further evaluations
- Evaluating alternative control options
- Enhancing current assessment approaches
- Evaluating environmental benefits.

This evaluation has identified watersheds where point sources could contribute to sediment contamination. It is anticipated that states, in cooperation with EPA and other federal agencies, will proceed with further evaluations of the top-priority watersheds. This effort is especially important for those watersheds also identified from the Survey as containing areas of probable concern for sediment contamination (APCs). The purpose of additional evaluation should be to determine whether existing technology-based controls or water quality-based discharge limits adequately protect downstream sediment quality and do not compromise natural recovery of contaminated areas.

The sediment contaminant loading analysis described in this report is currently the most comprehensive assessment of national point source releases of sediment contaminants. The Load Score analysis and data compiled for this report can be powerful tools for water resource managers at the national, regional, state, and watershed levels. This report provides a wealth of information that can be integrated with other data characterizing the quality of aquatic sediment and other contaminant sources. For example, point source release data and analysis results could be incorporated into the Agency's recently developed PC-based geographic information system (GIS) for watershed modeling and assessment. This system, called BASINS (Better Assessment Science for Integrating Point and Nonpoint Sources), provides the framework to integrate and analyze spatially related data, such as land use, stream hydrography, ambient contaminant levels in water and sediment, and discharger locations and release amounts. This system also allows the user to augment or replace data with additional or more appropriate information at the regional or local level. This is an important feature when contemplating use of PCS or TRI data, which cover a limited segment of all dischargers and might contain erroneous data, for specific local analyses.

The Point Source Inventory can be used to track risk reduction achieved through reduced surface water loadings. This supports activities such as the EPA Office of Policy, Planning, and Evaluation's National Goals Report, which is an effort to develop and track progress toward the Clean Water Act and other environmental legislation goals. Although not a direct measure of environmental quality, the Point Source Inventory provides a mechanism to track discharges of sediment contaminants.

Chapter 2

Development of the Point Source Inventory

The methodology employed in developing the Point Source Inventory had three basic steps. First, a master list of chemicals of interest was compiled. The chemicals selected were those with available sediment chemistry screening values that were used to evaluate Survey data. These chemicals are frequently detected in sediment and have been studied for their potential adverse effects on aquatic life or human health. Second, annual loading amounts were determined for the chemicals of interest. Two EPA computer databases were used as the primary sources of release information: the Toxic Release Inventory (TRI) and the Permit Compliance System (PCS). Releases were then assigned to watersheds, chemical classes, and industrial categories.

Identification of Point Source Releases of Sediment Contaminants

For the Survey, EPA compiled sediment chemistry and fish tissue residue data for more than 230 chemicals whose detected levels in these media could be evaluated for potential adverse effects to aquatic life or human health. The Survey evaluation of potential adverse effects to aquatic life was based on comparing sediment chemistry measurements to levels associated with adverse effects. The evaluation of adverse human health effects was based on comparing direct fish tissue measures, or predicted levels based on sediment concentrations, to EPA risk levels or Food and Drug Administration (FDA) guidance. Evaluating the potential threat to sediment quality posed by a point source chemical release requires knowledge of the level in sediment associated with an adverse effect. EPA could not evaluate sediment chemistry measurements for approximately 100 of the more than 230 chemicals because the Agency lacked either information regarding adverse effects to aquatic life or the means to predict fish tissue concentrations resulting from exposures to sediment contaminant concentrations (i.e., a biota-sediment accumulation factor (BSAF), available for nonionic organic compounds only). Other chemicals lacked the necessary information to evaluate the chemical fate or intermedia partitioning upon discharge to surface water. These factors limited the inventory to 111 individual sediment contaminants.

The data requirements of the Point Source Inventory limited the number of useful databases containing information about the release of those 111 chemicals from point sources. The requirements include (1) classification of the type of discharger (industrial category or Standard Industrial Classification [SIC] code); (2) pollutant-specific release data (e.g., measured or estimated load to the environment in mass per time) for individual facilities; and (3) location information for pollutant releases. TRI and PCS are the only national databases that meet these data requirements.

Toxic Release Inventory (TRI). TRI is a consistent, comprehensive national database of toxic chemical releases to all environmental media. Congress mandated its creation to fulfill the community right-to-know provision (section 313) of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This section requires the owner/operator of an industrial facility to report environmental releases of more than 300 specified toxic chemicals to EPA if the facility meets certain criteria. EPA's Office of Pollution Prevention and Toxics (OPPT) manages the information on releases submitted by industry.

Reports submitted by industry are the sole source of data in TRI. TRI contains release information from approximately 27,000 facilities. An owner/operator must file a report for a facility when it meets the following criteria:

- It employs the equivalent of 10 or more full-time employees.
- It engages in manufacturing (SIC Codes 20 through 39).
- It manufactures, imports, or processes more than 25,000 pounds of any listed chemical, or otherwise uses more than 10,000 pounds of any listed chemical.

For each listed chemical (currently over 300 specific chemicals and 20 chemical groups), the facility must submit a "Toxic Chemical Release Reporting Form," which contains the following:

- Facility identification information such as facility name, parent company, location (street address and latitude/longitude), type of business (based on SIC codes), key identifiers (such as Dun and Bradstreet ID, and NPDES numbers), and name of receiving water body.
- Offsite transfer locations for toxic chemicals, such as publicly owned treatment works (name and address of POTW) or waste disposal and treatment facilities (name, address, and EPA identification number).
- Chemical-specific information such as chemical identification (name and Chemical Abstract Service [CAS] number); use of the chemical at the facility; quantities released to air (fugitive and stack), water (including storm water), underground injection, and land; quantities transferred to offsite locations; and waste treatment methods and efficiencies. The quantities are reported either as a range for levels below 1,000 lb/year (i.e., 0-10, 11-499, and 500-999) or as a total annual release. The facility also reports the methods used in determining the release quantities (e.g., actual monitoring data, mass balance calculations, or emission factors).

Permit Compliance System (PCS). PCS is the national information management system for tracking compliance, enforcement, and permit status for the National Pollutant Discharge Elimination System (NPDES) program under the Clean Water Act. The NPDES program requires permits for all point source pollutant discharges to navigable U.S. waterways (other than dredged or fill material regulated under section 404 of the Clean Water Act). Specific discharge limits or monitoring requirements have been set for over 200 individual chemicals.

EPA's Office of Wastewater Management oversees the NPDES program on a national level. EPA has authorized 43 states and the Virgin Islands to administer the NPDES program. EPA regional offices administer the program in nonauthorized states. More than 65,000 active NPDES permits have been issued to facilities throughout the Nation. PCS has extensive records on approximately 7,000 permits that are classified as "major." Facilities are classified as "major" based on consideration of many factors, including effluent design flow, physical and chemical characteristics of the waste stream, and location of discharge. Each permit record in PCS may contain information that:

- Identifies and describes the facility (including a primary SIC code) to which the permit has been issued.
- Specifies the pollutant discharge limits for that facility.
- Records the actual amounts of pollutants and flows measured in the facility's wastewater discharges.
- Tracks the facility's history of compliance with construction requirements, pollutant limits, and reporting requirements.

Major facilities must report compliance with NPDES permit limits, usually on a monthly basis, via Discharge Monitoring Reports (DMRs). DMRs provide detailed information on measured concentrations, including those which are in violation of established limits for the permit. DMR data entered into PCS include the type of violation (if any), concentration and quantity values, and monitoring period. The PCS database is updated twice weekly.

Determination of Chemical Loads

The Point Source Inventory consists of two distinct sets of chemical loading data: one based on TRI records and one based on PCS records. For this evaluation, data from TRI and PCS were extracted for the calendar years 1993 and 1994, respectively. Together, TRI and PCS form the most comprehensive national chemical loading database. Facilities covered by both TRI and PCS cannot be readily identified, however, because no common, quality-controlled facility identification data elements are available in these databases. TRI contains a field for NPDES number, but its quality control is poor. Both TRI and PCS contain a field for EPA identification number, but these numbers, too, are unreliable. Therefore, there is a potential for double records of releases for chemicals reported in both TRI and PCS. As a result, the data in TRI and PCS are evaluated independently.

Toxic Release Inventory Data

For each TRI facility, total amounts of the chemicals of interest reported to be discharged to surface water and POTWs in calendar year 1993 were retrieved. For each chemical, the total release to surface water and an adjusted release to POTWs were summed to yield a total facility discharge. Some characteristics of the TRI database might introduce uncertainty into the release estimates. For example, manufacturers required to report to TRI might estimate chemical releases using ranges (e.g., 10 to 499 lb/yr). In the TRI database, the ranges are converted to a single value represented by the midpoint of the range (e.g., 250 lb/yr). Use of these midpoint values may overestimate or underestimate the actual releases of TRI chemicals.

The reported amounts of releases to POTWs were adjusted by assuming that typical secondary treatments, such as activated sludge and aeration lagoons, remove a portion of the chemical load. Review of chemical-specific data from the Office of Research and Development's Treatability Database (USEPA, 1991) indicated that removal rates can be highly variable and dependent on conditions at the POTW. Based on peer review comments received on a draft version of this methodology (Adams, 1994), all pollutants were assigned a removal rate of 75 percent. This removal rate does not tend to significantly overestimate or underestimate actual loading values. In a secondary treatment system, such as an activated sludge system, chemicals that are readily biodegraded are usually, but not always, removed at rates equal to or in excess of 90 percent, and adsorption often removes 80 to 85 percent of the mass of chemicals that do not biodegrade (Adams, 1994).

Permit Compliance System Data

It is important to recognize that, unlike TRI, PCS is a permit tracking system, not a repository of pollutant release amounts. However, an option in PCS called Effluent Data Statistics (EDS) can process PCS data to calculate loading values (USEPA, 1992a). EDS uses the following hierarchy to assign a loading for each pollutant: (1) reported chemical mass loading and (2) chemical loadings estimated based on discharge flow and concentration measurement. Depending on the monitoring requirements imposed by the permit, concentrations may be reported in many different ways. EDS selects concentration measurements from PCS in the following order of preference for inclusion in the inventory:

- Average concentration
- Maximum concentration
- Minimum concentration.

Loadings were estimated only for records with valid concentrations (as defined by EDS) and corresponding flow data assuming 30 operating days per month for each facility. Loadings were estimated using the following general equation:

$$\textit{Load} = \textit{Flow} * \textit{Conc} * \textit{Conversion Factors} \qquad \text{Equation 1}$$

where:

load	=	specific pollutant load from a facility per unit time;
flow	=	facility effluent flow per unit time;
conc	=	concentration of a pollutant; and
conversion factors	=	appropriate factors to convert reported units to standard units.

Total release amounts of the chemicals of interest were calculated for each PCS facility. Data were retrieved at the discharge pipe level from PCS for every NPDES discharger where the requisite data were available. Concentration data for each chemical were converted into annual loadings using Equation 1 above. The calculated loads for a given chemical from each discharge pipe at a facility were summed to yield the total facility load. In addition, multiple parameters sometimes exist for the same pollutant. For example, zinc concentrations might be reported as total zinc and dissolved zinc. In these cases, the largest calculated load (usually the "total" load) was selected for inclusion in the Point Source Inventory.

Concentration measurements for the chemicals of interest are often recorded in PCS as below the detection limit. In some cases, these measurements might reflect a low chemical concentration that available analytical instrumentation cannot recognize. In other cases, the chemical might not be present in the effluent. Measurements reported below a detection limit most commonly occur for highly toxic pollutants. Monitoring requirements for these chemicals might exist as a "safeguard" to alert managers to the presence of a particular chemical in effluent, or might be part of a large set of chemical measurements required by an effluent guideline rule covering a particular industrial category. In any case, a measurement reported below detection in PCS monitoring data does not establish the presence of the chemical in effluent. Therefore, values below the detection limit are set to zero in this inventory.

Assignment of Geographic Location and Industrial Category

Stream reach numbers (from EPA River Reach File 1) were assigned to each facility in the Point Source Inventory to place chemical discharges into watersheds. Because the reach number was frequently missing from both PCS and TRI, reach numbers were added electronically by linking PCS and TRI facility identification codes to the EPA Industrial Facilities Discharge File (IFD). If the reach number was not available in IFD, a computerized routine that starts with the facility latitude/longitude and searches the EPA Reach File for the nearest reach, up to a maximum distance of 10 miles, was employed. If the facility latitude and longitude coordinates were missing, the centroid of the county was used as the discharge location.

Industrial categories are groupings based on SIC codes. An industrial category can be based on a single 4-digit SIC code (e.g., Petroleum Refining) or a large and variable range of SIC codes (e.g., Metal Products and Finishing). Each facility in the Point Source Inventory was assigned a single SIC code based on the designated primary SIC code in PCS and TRI. However, because many large industrial facilities are involved in multiple activities that could correspond to different SIC codes, industrial category groupings are only approximate. There were 31 industrial categories overall. PCS data were grouped into 27 industrial categories, and TRI data were grouped into 21 industrial categories.

Inventory Limitations

The Point Source Inventory contains various limitations that should be considered when using this information in environmental decision-making. These limitations do not, however, preclude its use as a targeting tool to prioritize watersheds, chemicals, and industries for further evaluation. In some instances, the limitations might affect small-scale analyses (i.e., individual stream or lake water body segments) while large-scale analyses, such as the ones presented in this report, are affected to a lesser degree. Conclusions presented in this report are made with consideration of the following factors.

This analysis is primarily limited by the quality and quantity of existing data in national EPA databases. The broad scope of the inventory has prohibited collection of large amounts of data from numerous site-specific information sources at this time. Therefore, the inventory relies on data available in national electronic databases such as TRI and PCS. Although a considerable volume of information is contained in these databases, many important parameters are not available. In particular, no national electronic database accurately, consistently, or completely stores information concerning the characteristics of water bodies, such as underlying sediment type. Furthermore, data quality assurance/quality control is an important issue when using data from large national databases that receive input from a variety of sources. The amount of data contained in these national databases is too large to conduct comprehensive verification procedures. In addition, it should be noted that the number of facilities discharging chemicals of interest may vary from year to year based on such factors as regulatory changes (e.g., increased chemical reporting or SIC coverage in TRI, or increases in the number of recorded storm water permits in PCS) or economic conditions. Given these qualifications, the three major limitations of the inventory as it is now structured are:

- The inability to predict whether a point source release could contribute to a sediment contamination problem.

- The inability to predict where point source releases might contribute to sediment contamination (i.e., the geographic analyses are limited to identifying areas or watersheds where point source releases occur).

- The inability to assess contributions from nonpoint source inputs (including deliberate introduction of toxic substances, such as pesticides and household chemicals, to the environment) and from point source inputs not represented in the PCS or TRI databases (e.g., facilities that do not meet a TRI reporting criterion and for which NPDES permits do not require monthly monitoring).

Conclusions based on the Point Source Inventory should take into consideration the inherent limitations of the databases and the assumptions used in developing the inventory. Factors associated with database limitations that should be considered include the possibility of erroneous data in TRI and PCS, the limited coverage of TRI and PCS, and inherent database biases. Neither PCS nor TRI accurately reflects the full extent of toxic chemical releases from point sources, and the data contained in both may be inherently biased. Although several hundred individual chemicals are represented in each database, as many as 5 to 10 times more chemicals might be discharged (Adams, 1994). In addition, the number of chemicals addressed in PCS permits is highly variable. Because the types and number of chemicals included are partly a function of the policies and practices of the state or regional permitting authority, and of the industrial activities conducted at the facility, the data might be biased toward some geographic regions and industrial categories. Furthermore, only approximately 10 percent of permitted dischargers are classified as "major" and have extensive records from which chemical loads can be derived. Facilities subject to TRI reporting represent a relatively narrow range of commercial activities (manufacturing only). Although the TRI database is based on a standard set of chemicals, many highly toxic chemicals that tend to accumulate in sediment are not included. Therefore, TRI captures only a portion of chemical releases to the environment. Future enhancements to TRI might overcome some of these limitations and the biases they create.

Other potential sources of error are associated with the assumptions used in the assignment of geographic location and industrial category. In many cases, geographic location assignment was made using latitude and longitude coordinates of the facility and the nearest stream reach. However, the nearest stream might not be the receiving stream for some facilities. Also, for TRI data, POTW receiving streams could not be identified. Consequently, chemical loadings derived from POTW transfers for TRI data were assigned to the stream reach associated with the reporting facility. Industrial category assignment was made on the basis of primary SIC code; however, many facilities are engaged in a wide range of commercial activities. As a result, chemical wastes generated from non-primary SIC code activities are included with those from the primary SIC code in the Point Source Inventory.

Chapter 3

Development of Chemical Load Scores

One major objective of the Point Source Inventory was to develop and employ a screening-level loading analysis procedure to identify and prioritize watersheds where active point sources may contribute to sediment contamination, and to generate a relative ranking of chemicals and industrial source categories that are potential contributors. To enable screening-level analyses, chemical-specific chemical loading scores (CLSs) were developed and used to normalize the annual chemical loads (ACLs) in the Point Source Inventory. In the screening-level analysis (described in Section 4), ACLs were multiplied by chemical-specific CLSs to produce adjusted loads:

$$\textit{Adjusted Load} = \textit{CLS} * \textit{ACL} \qquad \text{Equation 2}$$

where:

CLS = Chemical load score, a product of the FATE and TOX scores as described below, and

ACL = Annual chemical load, the annual release amount (lb/yr) of a specific chemical from individual industrial or municipal treatment facilities.

CLSs are intended to represent both the potential of a particular chemical to accumulate in sediment upon discharge to surface water (independent of the characteristics of the site) and the potential ecological and human health risk posed by the chemical. The CLS is the product of the chemical-specific toxicity (TOX) score and chemical-specific fate (FATE) score. The TOX score is intended to represent the potential for adverse effects to human health and aquatic life from chemicals in sediment. The FATE score is intended to represent the potential for a chemical to partition to and persist in sediment. Four previous works were examined to assist in the development of the screening-level methodology:

- National Sediment Quality Survey (peer-reviewed draft, USEPA, 1996b);
- Established methods of determining sediment toxicity (USEPA, 1992b);
- Superfund's Hazard Ranking System, Final Rule (USEPA, 1990a); and
- NOAA's pesticide hazard rating system (Pait et al., 1992).

Calculated CLSs, TOX scores, and FATE scores, along with the information required to calculate them (i.e., sediment chemistry screening values and physical/chemical properties), are presented in Appendix A of this report.

The adjusted load computed for a facility's discharge of a specific chemical is assigned a Load Score. The Load Score is a unitless index of the magnitude of potential sediment contamination based on chemical/facility-specific releases, physical and chemical properties, and potential environmental risk. The mathematical relationship of adjusted load scores to Load Score is given by the following equation:

$$\textit{Load Score} = \textit{INT}\,(\log_{10}(\textit{adjusted load})) + 1 \qquad \text{Equation 3}$$

Values less than zero or greater than 5 are set to zero and 5, respectively. Load Scores indicate the potential contribution to sediment contamination in the absence of any knowledge of historical or nonpoint source inputs and site-specific conditions (e.g., stream velocity, organic carbon content of underlying sediment) affecting chemical fate and intermedia partitioning. Load Scores may be used to rank and compare potential sediment contamination sources. Once the Load Scores were calculated for each chemical-facility combination, a number of data aggregations were performed to evaluate chemical classes and industrial categories for their relative potential risk of causing sediment contamination, and to identify watersheds where the risk of contamination from active point sources might be the greatest.

Table 3-1 illustrates the assignment of Load Scores. In general, the Load Score represents the magnitude of the adjusted load (product of CLS times ACL). However, if the adjusted load is less than 1, the release is assigned a Load Score of zero. This assumes that these releases are not significant potential contributors to sediment contamination, and is intended to focus attention on larger releases with greater hazard potential. The column headings of Table 3-1 provide chemicals representative of each CLS range as a reference. For example, the sediment hazard posed by mercury is approximately 10 times the hazard posed by pyrene. This scoring system allows comparison of annual loads of chemicals that vary in their hazard potential. For example, an annual load of 1,000 pounds of zinc is approximately equivalent to an annual load of 100 pounds of fluorene or 10 pounds of

Table 3-1. Assignment of Load Score

Annual Chemical Load (lb/yr)	Chemical Load Score (TOX Score * FATE Score)					
	0.001 (e.g., phenol)	0.01 (e.g., zinc)	0.1 (e.g., fluorene)	1 (e.g., pyrene)	10 (e.g., mercury)	>100 (e.g., PCBs)
<0.01	0	0	0	0	0	1
0.1	0	0	0	0	1	2
1	0	0	0	1	2	3
10	0	0	1	2	3	4
100	0	1	2	3	4	5
1,000	1	2	3	4	5	
10,000	2	3	4	5		
100,000	3	4	5			

pyrene or 10,000 pounds of phenol: each receives a Load Score of 2. These scores can also be summed across aggregate units. For example, 20 facilities each releasing 100 pounds of mercury per year (Load Score = 4) in a given watershed would yield a watershed Load Score of 80 (20 times 4).

Chemical-Specific Toxicity Score

Sediment contamination is a function of the mixture and concentration of toxic pollutants in the sediment and the physical and chemical characteristics of the site. To assess potential sediment toxicity, sediment chemistry data must be related to adverse biological effects. Numerical effects-based, chemical-specific sediment chemistry screening values have been used to assist analysts and managers in the evaluation of sediment chemistry data and to identify and prioritize problem areas (Di Toro et al., 1991). The TOX score is one component of the CLS. This chemical-specific value was calculated by taking the inverse of the chemical's derived sediment chemistry screening value reported in milligrams per kilogram (mg/kg). Because the inverse of the sediment chemistry screening value is used, the TOX score increases in direct proportion to the toxicity of the chemical.

Several methods are currently available for developing sediment quality screening values (USEPA, 1992b). Most of these methods require information on site-specific conditions (field data) and chemical-specific properties. However, because field data are not available for each point source discharge location, screening values for use in this analysis must be based on empirical methods that make use of available data from a variety of sites, or mechanistic methods where the site-specific components can be reasonably assumed. The NOAA National Status and Trends program's effects range approach and the State of Washington's apparent effect threshold approach use existing sediment chemistry and biological effects data from a variety of sites, and EPA's equilibrium partitioning approach has a site-specific component that can be reasonably assumed. The preferred approach for screening value estimation depends on the properties and expected chemical partitioning associated with the released chemical.

In this study, a combination of the equilibrium partitioning (EqP) approach and biological effects correlation approaches was used to estimate sediment chemistry screening values for the protection of aquatic life. The theoretical bioaccumulation (TBP) approach was used to estimate sediment chemistry screening values for human health assessments. Appendix A contains a listing of all the calculated sediment chemistry screening values for the chemicals of interest contained in the Point Source Inventory.

It is important to note that the certainty with which sediment toxicity can be predicted for each chemical varies significantly based on the quality of the available data and the appropriateness of exposure assumptions. Estimated sediment chemistry screening values are to be used for screening purposes only. Their purpose is to obtain a relative ranking of potential hazard for aquatic bottom sediments from point source pollutant discharges to surface waters. The following limitations of the estimated sediment chemistry screening values should be noted:

- Values may be overprotective or underprotective of actual site-specific sediment because methodological and exposure conditions vary considerably.

- Values are general approximations of concentrations potentially leading to adverse effects because data and assessment methods are continually being compiled and developed.

- Values are based on a composite of several different sediment assessment approaches and a variety of data sources, the application of which EPA has not adopted or endorsed for use outside this and other screening-level analyses.

EPA has proposed sediment quality criteria (SQCs) for five chemicals based on extensive data quality and quantity requirements and methodologies that have gone through extensive peer review. The other estimated sediment chemistry screening values for additional chemicals presented in Appendix A of this report do not represent proposed SQCs. The sediment chemistry screening values were developed or compiled for the evaluation of Survey data (Volume 1 of this report). The remainder of this section provides a brief overview of the screening values. The interested reader should consult Volume 1 of this report and appendices for detailed descriptions and explanations.

Aquatic Life Screening Values

The sediment chemistry screening values used to evaluate potential adverse effects to aquatic life include theoretically and empirically based values. The theoretically based values rely on demonstrated laboratory toxicity and physical/chemical properties of sediment to predict a concentration level that protects the benthic community from chronic adverse reproductive or growth effects. The empirically based, or correlative, threshold values rely on paired field and laboratory data to relate incidence of observed adverse biological effects to the dry-weight sediment concentration of a specific chemical.

The theoretically based screening values, limited to nonionic organic compounds, include the following parameters:

- **Sediment Quality Criteria (SQCs):** EPA (1993a, b, c, d, e) has developed draft SQCs for five chemicals using the equilibrium partitioning (EqP) approach, which involves predicting a dry-weight sediment concentration that is in equilibrium with a threshold pore water concentration using the chemical-specific organic carbon/water partition coefficient (K_{oc}) and the site-specific organic carbon content. The EqP approach is described in detail in Appendix B of the Survey. Draft SQCs are based on the highest-quality data available, which have been reviewed extensively.

- **Sediment Quality Advisory Levels (SQALs):** SQALs were also developed using the EqP approach, but have fewer aquatic toxicity data requirements.

For purposes of calculating sediment hazard scores for the chemicals with available SQCs and SQALs, a default organic carbon content of 1 percent was used because of lack of site-specific sediment information in PCS and TRI. In practical application, the organic carbon content can vary a great deal, as can important other binding phases at any given sampling station.

The empirically based, correlative approaches used for the Point Source Inventory include the following upper screening values. Each of these parameters has a corresponding lower (more stringent) screening value that was not used in the development of TOX scores and subsequent chemical load scores. The primary limitation to use of these values for chemical-specific analyses is the possible effects of other toxic agents that may be present at the field site where biological effects are observed. The correlative approaches tend to result in screening values that are lower than the theoretical SQCs and SQALs, which address the effect caused only by a single contaminant.

- **Effects Range-Median (ERM):** Values above the ERM are defined as being in the "probable-effects range" (Long et al., 1995). The ERM is the 50th percentile of the distribution of measured concentrations associated with an observed adverse effect.

- **Apparent Effects Threshold-High (AETH):** Developed by Barrick et al. (1988), the AET-high or AETH is the concentration at which observed adverse effects always demonstrate statistically significant differences from reference conditions for each biological indicator tested.

- **Probable Effects Level (PEL):** Toxic effects were found to occur usually or frequently at concentrations above the PEL (FDEP, 1994). The PEL is derived in a manner similar to the ERM.

Human Health Screening Values

To evaluate the potential risk to human consumers of organisms exposed to sediment contaminants, a theoretical bioaccumulation potential (TBP) was calculated. A TBP is an estimate of the equilibrium concentration of a contaminant in fish tissue if the sediment in question were the only source of contamination. At present, a TBP calculation can only be performed for nonpolar organic chemicals based on the concentration of contaminant in the sediment, the organic carbon content of the sediment, the lipid content of the fish, and the relative affinity of the chemical for sediment organic carbon and fish lipid. The relative affinity is a field-measured biota-sediment accumulation factor (BSAF). The TBP calculation and the selection of BSAFs are discussed in detail in Appendices B and C of Volume 1 of this report. Because data on site-specific conditions were not available from the PCS and TRI data sets, average default values for organic carbon content (1 percent) and lipid concentration (3 percent) were used in the TBP calculation in this study.

Human health screening values were derived by using EPA risk levels and solving the TBP equation for sediment concentration. EPA fish tissue risk levels were calculated using a fish consumption rate of 6.5 grams per day and an average adult body weight of 70 kilograms, the same exposure parameters EPA uses to develop human health water quality criteria. Cancer risk levels were calculated using recommended slope factors and a target risk level of 10^{-5}. Noncancer risk levels were calculated using recommended reference doses and a target hazard quotient of 1. Example risk calculations and slope factors and reference doses are presented in the Volume 1 of this report.

Chemical-Specific Toxicity Scores

The overall sediment chemistry screening value is the lower of the aquatic life screening value and human health screening value. The aquatic life screening value for a particular chemical was selected in the following descending order of availability: SQCs, SQALs, ERMs, AETHs, and PELs. This selection hierarchy reflects the EPA preference for screening values that can reliably attribute adverse effects to the chemical of interest, especially for a chemical-specific loading analysis such as this. As previously stated, the inverse of the sediment chemistry screening value serves as the TOX score to produce a positive relationship between screening values and TOX scores. In other words, the more stringent the screening value, the greater the TOX score.

Chemical-Specific Fate Score

The second component of the Chemical Load Score (CLS) is the FATE score. The FATE score is the product of the air/water partitioning subfactor (HLC score), sediment adsorption subfactor (KOC score), and biodegradation subfactor (BIODEG score). The potential for a chemical to accumulate in the underlying sediment upon discharge to surface water depends greatly on site-specific characteristics such as sediment organic matter content, temperature, suspended particulate matter, and the lotic or lentic nature of the receiving water body. The physical/chemical properties of the pollutants also affect their transport and persistence in the aquatic environment. The chemicals of interest in the Point Source Inventory differ widely in their physical/chemical properties. Some chemicals are very likely to partition to and to persist in the sediment, some will likely volatilize, and others will rapidly degrade. Therefore, a FATE score with sediment adsorption, air/water partitioning, and aqueous degradation subfactors was used. Three physical/chemical properties for organic sediment contaminants were obtained for the chemicals in the inventory: the sediment adsorption coefficient or K_{oc}, the Henry's Law constant (HLC), and the aerobic aqueous biodegradation half-life.

The two transport subfactors, air-water partitioning and sediment adsorption, are represented by chemical-specific HLC and K_{oc} values, respectively. These subfactors were treated in a manner similar to that used in the pesticide hazard rating system devised by Pait et al. (1992). Individual HLC and K_{oc} values were assigned scores ranging from 0.1 to 1. These values were then multiplied to produce a score that represents the likelihood of transport to the sediment.

The aqueous degradation subfactor is represented by chemical-specific aerobic biodegradation half-lives. Because the sediment hazard score was applied to annual release amounts, the half-life was converted to an annual loss rate constant and multiplied by the transport value (i.e., the product of the two transport subfactor scores) to arrive at the final FATE score.

Air-Water Partitioning Subfactor

The Henry's Law constant (HLC) is the ratio of vapor pressure to solubility and is indicative of the propensity of a chemical to volatilize from surface water (Lyman et al., 1982). The larger the HLC, the more likely the chemical will volatilize. Lyman et al. (1982) state that a chemical with an HLC less than 3×10^{-7} (atm-m^3/mole) is essentially nonvolatile, and a chemical with an HLC greater than 10^{-3} (atm-m^3/mole) will volatilize rapidly from surface water. HLC scores were calculated according to the following steps:

1. All values > 10^{-3} were assigned a score of 0.1.
2. All values < 3 x 10^{-7} were assigned a score of 1.0.
3. All other values were assigned a score using Equation 4 to evenly distribute scores across the range of values:

$$HLC_{score} = \left[\frac{\log(10^{-3}) - \log(HLC)}{\log(10^{-3}) - \log(3 \times 10^{-7})} * 0.9 \right] + 0.1 \qquad \text{Equation 4}$$

where:

HLC_{score} = air-water partitioning subfactor and

HLC = Henry's Law constant (atm-m³/mole).

Sediment Adsorption Subfactor

K_{oc} is a chemical-specific adsorption parameter that is largely independent of the properties of soil or sediment and can be used as a relative indicator of adsorption to such media. Although a high K_{oc} value indicates that a chemical is more likely to partition to sediment, it also indicates that a chemical may be less bioavailable. K_{oc} is highly inversely correlated with solubility and fairly well correlated with BSAF.

U.S. EPA (1993b) recommends using the following regression equation to calculate the organic carbon-water partition coefficient (K_{oc}) from the octanol-water partition coefficient (K_{ow}):

$$\log_{10} K_{oc} = 0.00028 + 0.983 * \log_{10} K_{ow} \qquad \text{Equation 5}$$

Where available, K_{oc} values were calculated from the latest EPA-recommended octanol-water coefficient (K_{ow}) (Karickhoff and Long, 1995). Other K_{ow} values used included those derived from the slow-stir flask method, which were selected preferentially over other laboratory values reported in literature (USEPA, 1993f).

KOC scores were calculated according to the following steps:

1. All values > 10^6 were assigned a score of 1.0.
2. All values < 10^2 were assigned a score of 0.1.
3. All other values were assigned a score using Equation 6 to evenly distribute scores across the range of values:

$$KOC_{score} = \left[\frac{\log(K_{oc}) - \log(10^2)}{\log(10^6) - \log(10^2)} * 0.9\right] + 0.1 \qquad \text{Equation 6}$$

where:

KOC_{score} = sediment adsorption subfactor and

K_{oc} = organic carbon-water partition coefficient (L/kg).

Aqueous Biodegradation Subfactor

Although many physical and chemical processes can contribute to degradation (e.g., hydrolysis, photolysis, biological degradation), aerobic biodegradation half-life was selected as the sole indicator of environmental persistence of a chemical released to the water column. Ignoring other removal mechanisms is a conservative approach because it can only overestimate rather than underestimate a chemical's persistence potential. Aerobic aqueous biodegradation half-lives are empirically derived time periods when half of a chemical load released to water is degraded by microbial action in the presence of oxygen. Although the degradation products may be equal in toxicity to or even more toxic than the parent, evaluation of chemical metabolites was not considered in the hazard analysis. Aerobic biodegradation half-lives for the current set of potential sediment contaminants range from 4 hours to 16 years.

Half-lives in days were converted to loss rate constants in $(\text{years})^{-1}$ using the following equation:

$$\lambda = \frac{\ln(2) * 365}{t^{\frac{1}{2}}} \qquad \text{Equation 7}$$

where:

λ = loss rate constant $(\text{year})^{-1}$;

ln(2) = natural log of 2;

$t^{½}$ = aqueous aerobic biodegradation half-life (days); and

365 = conversion factor (days per year).

Because other factors, such as deep burial, might become important over time, chemicals with reported half-lives greater than 7 years were assigned a half-life of 7 years. This results in the largest BIODEG score of 10. The BIODEG score was calculated by taking the inverse of the loss rate constant so that more persistent compounds would have higher values:

$$BIODEG_{score} = \frac{1}{\lambda} \qquad \text{Equation 8}$$

The FATE score was calculated by combining the HLC, KOC, and BIODEG scores according the following formula:

$$FATE_{score} = (BIODEG_{score}) * (HLC_{score}) * (KOC_{score}) \qquad \text{Equation 9}$$

Metals, which will not degrade or volatilize, were assigned a BIODEG score of 10 and an HLC score of 1. The relative partitioning of dissolved metal between the water column and the underlying sediment is a function of site-specific conditions, not inherent properties of the metal. Therefore, metals were assigned a KOC score of 0.5, representing the midpoint of all possible values.

Functions of Chemical Load Score Components

The overall general equation for the CLS is:

$$CLS = TOX_{score} * FATE_{score} \qquad \text{Equation 10}$$

where:

TOX_{score} = $(SCV)^{-1}$;

$FATE_{score}$ = $KOC_{score} * HLC_{score} * BIODEG_{score}$;

CLS = chemical load score (unitless);

SCV = sediment chemistry screening value (based on screening values in units of mg/kg);

KOC_{score} = sediment adsorption subfactor (unitless);

HLC_{score} = air-water partitioning subfactor (unitless); and

$BIODEG_{score}$ = aqueous biodegradation subfactor (unitless).

The function of the sediment chemistry screening value in the CLS is to increase or decrease the adjusted load relative to the annual chemical load (ACL) based on the toxicity exhibited by the chemical. Ignoring the effects of the FATE score components, a chemical with a sediment chemistry screening value less than 1 mg/kg has an CLS greater than 1 and higher adjusted loads than ACLs. On the other hand, a chemical with a sediment chemistry screening value greater than 1 mg/kg has an CLS less than 1 and lower adjusted loads than

ACLs. The magnitude of the effect on the adjusted load is in direct proportion to the magnitude of the sediment chemistry screening value versus a value of 1 mg/kg. The "standard" of 1 mg/kg is arbitrary and does not have any physical or biochemical significance.

The function of the BIODEG score is to adjust the ACL based on a chemical's persistence in the aquatic environment. Half-life values in days were converted to a loss rate constant in $(years)^{-1}$. The BIODEG score, which is the inverse annual loss rate constant, has the mathematical effect of converting an annual surface water load to a steady-state mass of chemical in the water column. Chemicals with a half-life greater than 253 days (ln(2) * 365 days/yr) have a BIODEG score greater than 1, which increases the adjusted load. This indicates that the steady-state mass is greater than the annual load (i.e., net accumulation). Conversely, chemicals with a half-life less than 253 days have a BIODEG score less than 1, which decreases the adjusted load. This indicates that the steady-state mass is less than the annual load (i.e., net loss). The magnitude of the effect on adjusted load is in direct proportion to the magnitude of the half-life versus a value of 253.

The functions of the KOC score and HLC score are to decrease the adjusted load depending on the chemical's propensity to partition to sediment or volatilize from the water column. If a chemical is hydrophilic and has little propensity to bind to sediment, the adjusted load will decrease by as much as one order of magnitude. Likewise, if a chemical has a strong tendency to volatilize, the adjusted load will also decrease by as much as one order of magnitude. This relatively small adjustment was made because of the many mitigating site-specific factors that affect intermedia partitioning.

The sediment chemistry screening values and ACLs for the chemicals of concern in this analysis vary over more orders of magnitude than do biodegradation half-lives, KOC scores, and HLC scores. Therefore, adjusted loads are primarily driven by ACLs and chemical toxicity.

The sensitivity of the parameters used in CLS calculation, with the exception of K_{oc}, are depicted in Figure 3-1. Note that the x-axis labels represent the factor by which the original values are multiplied (i.e., the effect of doubling a given parameter on the CLS is read from the point labeled "2" on the x-axis). Likewise, the y-axis labels represent the change in CLS values resulting from altering input parameters. For example, if the percent OC is halved ("0.5" on the x-axis), the CLS would be doubled ("2" on the y-axis). The sensitivity of K_{oc} is depicted in Figure 3-2 in three parts: one for the effect based on KOC score (increase in K_{oc} means greater propensity to partition to sediment and higher CLS), one for the effect based on the equilibrium partitioning approach (increase in K_{oc} means less bioavailability and lower CLS), and one for the overall K_{oc} effect.

The overall uncertainty in the CLS precludes their use in analyses that require a high degree of accuracy. However, this level of uncertainty is acceptable for meeting the objective of performing a screening-level loading analysis.

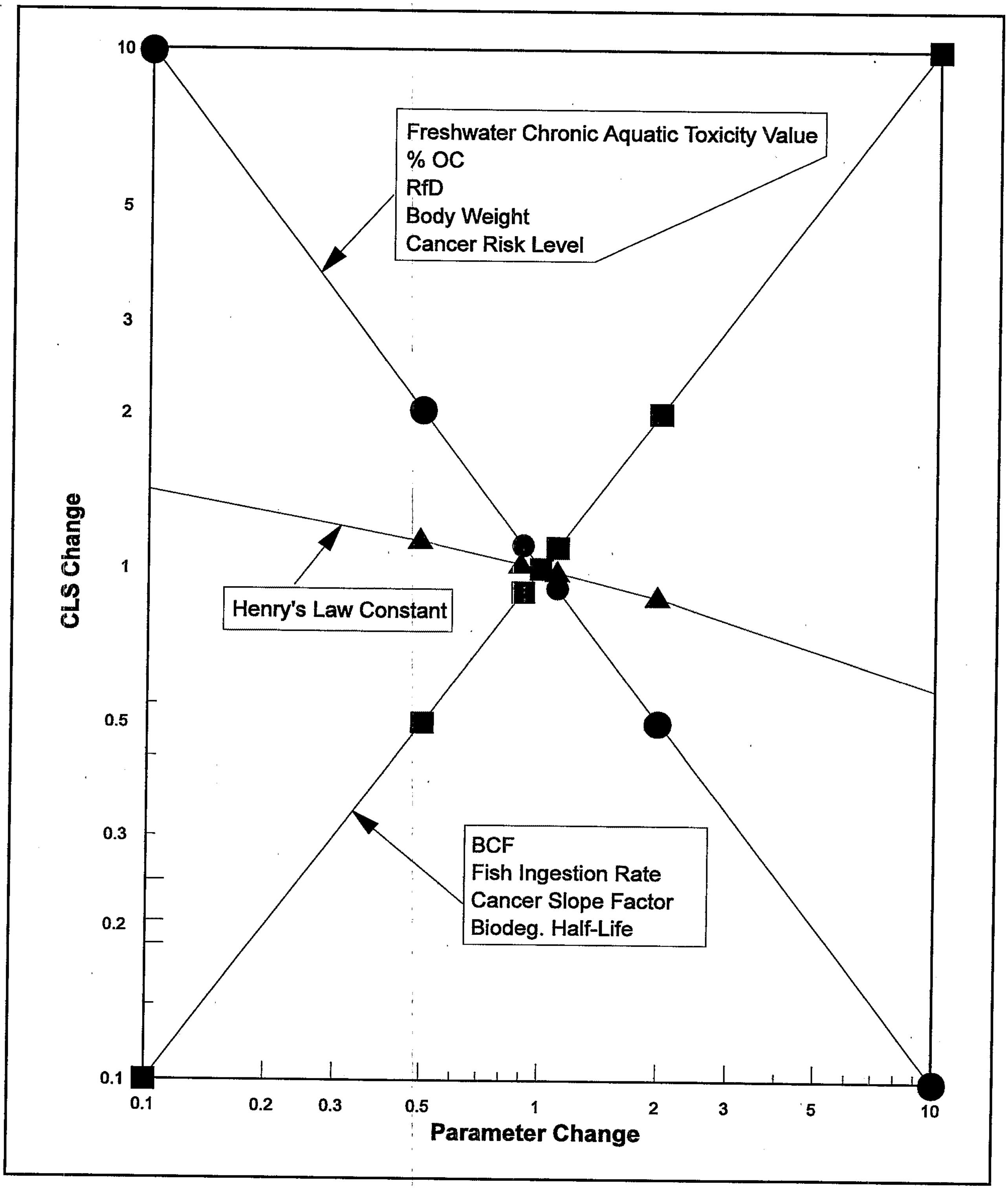

Figure 3-1. Chemical Load Score (CLS)—Parameter sensitivity.

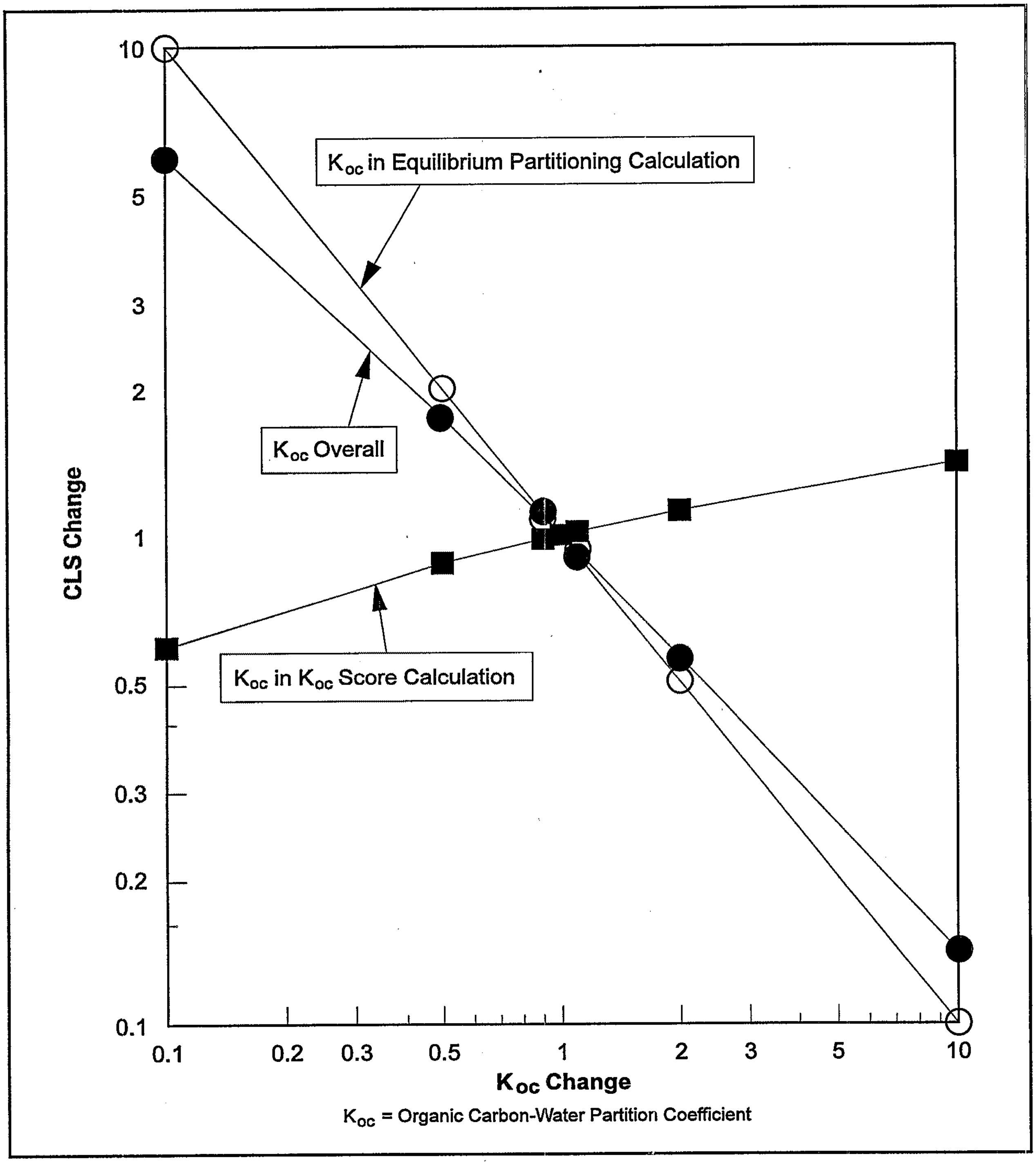

Figure 3-2. Chemical Load Score (CLS)—K_{oc} sensitivity.

Chapter 4

Results of Screening-Level Analyses

The screening-level loading analysis of Point Source Inventory data from the 1993 Toxic Release Inventory (TRI) and the 1994 Permit Compliance System (PCS) can be used to evaluate the release of sediment contaminants and to identify the chemical classes, watersheds, and industrial categories that may be associated with potential sediment quality problems arising from point sources. The analysis does not necessarily indicate where contaminated sediment problems have occurred or who is responsible. Further information to screen watersheds can be obtained when the release data are compared to the Survey data evaluation (Volume 1 of this report).

This chapter describes how the Point Source Inventory data were prepared for the loading analysis and highlights the results by chemical, watershed, and industrial category. Tables and figures of summary information are presented within the body of the text. Longer tables that contain more detailed information are presented in Appendices B and C. Appendix B contains a listing of watersheds (defined by 8-digit U.S. Geological Survey (USGS) cataloging units) grouped by specific ranges of Load Scores. These groups are referred to as priority groups in this report. Appendix C contains detailed information on chemicals associated with the industrial categories evaluated in this analysis.

Preparation of Data for Loading Analysis

The first step in conducting the screening-level loading analysis was to qualitatively examine the Point Source Inventory data for validity and prepare the data for analysis. Of the original 233 potential sediment contaminants analyzed as part of the Survey, 122 were excluded from the loading analysis because a CLS could not be calculated or no data were available for analysis. Table A1 in Appendix A contains a complete list of the remaining 111 sediment contaminants participating in the loading analysis.

Although the PCS and TRI data were not systematically checked for errors when the inventory was developed, an attempt was made to eliminate highly suspect records from the loading analysis. Several loading records from PCS were excluded from the loading analysis because they were highly suspect and would bias the results. For this analysis, EPA defined a highly suspect record as the release of any chemical in excess of one-half million pounds per year. While feasible at large municipal treatment works such as Chicago Main or Blue Plains in Washington, DC, experience in examining PCS records indicates that these extremely large surface water releases can be traced back to incorrectly reported concentration or flow measurements. Because incorrect flow measurements would have an impact on all loadings reported for that facility, all data for 21 facilities from PCS were removed from further analysis. Based on examining monitoring data reported for dioxin in PCS, all dioxin data were also excluded from the analysis. Many dioxin records were listed as below detection, and thus treated as zero discharge. EPA had little confidence in the remaining detectable levels because of problems with measurement units and other concerns. No facilities from TRI were removed from the analysis.

More than 25,500 individual records of direct or indirect pollutant releases to surface water from point sources were examined in the screening-level loading analysis for their potential to contribute to sediment contamination. Releases of 111 different chemicals including divalent metals (i.e., cadmium, copper, lead, nickel, and zinc); mercury; other metals; polynuclear aromatic hydrocarbons (PAHs); pesticides; polychlorinated biphenyls (PCBs); and other organic compounds were analyzed. The 1993 TRI data have release records for 60 of these chemicals, and the 1994 PCS data have release records for 108 of these chemicals.

PCS records show that direct releases of sediment contaminants from 4,869 facilities totaled nearly 19 million lb/yr in 1994. Based on 1993 TRI data, direct releases and transfers to POTWs (multiplied by 0.25 to account for removal during treatment) from 3,432 manufacturing facilities totaled 7.3 million lb/yr. Facilities with chemical release records in PCS and/or TRI were located in all 50 states, the District of Columbia, Puerto Rico, and the Virgin Islands. Over 1,000 individual watersheds, as defined by USGS 8-digit cataloging units, receive loads of potential sediment contaminants as reported by PCS and TRI. This corresponds to approximately one-half of all watersheds in the United States. Individual facilities are placed into 31 distinct industrial categories. These categories represent a broad range of activities (e.g., POTWs, chemical manufacturers, textile mills, coal mines).

Analysis by Chemical

Table 4-1 presents the annual release, adjusted load, and Load Score for each of the 60 chemicals included in the loading analysis for TRI data. The CLS and the number of facilities reporting surface water releases or POTW transfers for each chemical are also included in Table 4-1. Based on TRI data, xylene, nickel, and copper have the largest aggregate Load Scores. Together with the next seven chemicals listed in Table 4-1 (lead, toluene, phenol, chromium, 1,1,1-trichloroethane, trichloromethane, and benzene), all with Load Scores greater than 80, the top 10 chemicals represent more than 69 percent of the aggregate Load Score for data from TRI.

Table 4-2 shows the corresponding information for the 108 chemicals included in the loading analysis for PCS data. Based on PCS data, zinc, copper, and nickel have the largest aggregate Load Scores. Together with the next 10 chemicals listed in Table 4-2 (cadmium, silver, mercury, lead, chromium, arsenic, PCBs, benzo(a)pyrene, antimony, and tetrachloroethene), all with Load Scores greater than 80, the top 13 represent more than 86 percent of the aggregate Load Score for data from PCS.

Several chemicals have large aggregate national raw loads and are released from a large number of facilities (i.e., zinc and copper), whereas other chemicals (e.g., chlordane) appear to represent a few isolated releases. Tables 4-1 and 4-2 also present the distribution of records by Load Score. The Load Score distribution is skewed to the right for most chemicals. That is, most records indicate a low Load Score (i.e., less than 3); substantially fewer records have large Load Scores. This assessment transforms the adjusted load for each analyzed record to a Load Score from zero to five representing the magnitude of the CLS * ACL product. This approach minimizes the impact of a small number of very large release records that account for the majority of adjusted load and appropriately focuses attention on

Table 4-1. Analysis of TRI Data by Chemical (Sorted by Descending Load Score)

Chemical Class	Chemical	Number of Facilities	CLS	Annual Release (lb/yr)	Adjusted Load	Distribution of Load Score by Facility						Total Load Score
						0	1	2	3	4	5	
Other	Xylenes	429	1.6E-01	216,429	3.5E+04	179	86	129	24	11	-	460
Divalent Metal	Nickel	673	9.7E-02	62,936	6.1E+03	354	233	76	10	-	-	415
Divalent Metal	Copper	1,092	1.9E-02	80,855	1.5E+03	730	339	22	1	-	-	386
Divalent Metal	Lead	317	2.3E-02	31,596	7.3E+02	218	91	7	1	-	-	108
Other	Toluene	513	2.5E-03	375,394	9.4E+02	437	56	19	1	-	-	97
Other	Phenol	313	1.1E-03	1,081,204	1.2E+03	243	46	22	2	-	-	96
Metal	Chromium	578	1.4E-02	43,481	6.1E+02	492	76	10	-	-	-	96
Other	Trichloroethane, 1,1,1-	209	1.3E-01	26,026	3.4E+03	138	53	13	5	-	-	94
Other	Trichloromethane	141	1.2E-03	602,141	7.2E+02	69	55	16	1	-	-	90
Other	Benzene	192	1.3E-02	95,948	1.2E+03	134	37	18	3	-	-	82
Other	Tetrachloroethene	78	6.5E-02	37,904	2.5E+03	43	17	13	5	-	-	58
Divalent Metal	Zinc	129	1.2E-02	92,386	1.1E+03	88	34	5	2	-	-	50
PAH	Naphthalene	121	1.4E-02	37,211	5.2E+02	83	30	7	1	-	-	47
Other	Pentachlorophenol	23	7.9E-01	2,824	2.2E+03	3	9	3	8	-	-	39
Other	Biphenyl	64	2.6E-03	203,381	5.3E+02	38	16	8	2	-	-	38
Other	Acrylonitrile	47	4.7E-02	53,565	2.5E+03	26	9	9	2	1	-	37
Other	Trichloroethene	120	1.7E-02	16,662	2.8E+02	91	25	3	1	-	-	34
Other	Xylene, o-	28	1.5E-01	6,743	1.0E+03	9	6	11	2	-	-	34
Other	Diethyl phthalate	33	7.1E-02	75,866	5.4E+03	9	20	1	2	1	-	32
Metal	Silver	30	1.4E+00	802	1.1E+03	6	18	4	2	-	-	32
Mercury	Mercury	14	7.0E+00	271	1.9E+03	-	3	5	6	-	-	31
Other	Bis(2-ethylhexyl) phthalate	58	2.7E-02	7,843	2.1E+02	34	18	6	-	-	-	30
Other	Dichloroethane, 1,2-	35	1.8E-02	10,281	1.9E+02	14	14	7	-	-	-	28
Divalent Metal	Cadmium	29	5.2E-01	951	4.9E+02	13	7	7	2	-	-	27
Metal	Antimony	52	2.5E-02	17,873	4.5E+02	35	10	5	2	-	-	26
Other	Tetrachloromethane	26	1.3E-01	1,872	2.4E+02	10	9	7	-	-	-	23

Table 4-1. (Continued)

Chemical Class	Chemical	Number of Facilities	CLS	Annual Release (lb/yr)	Adjusted Load	Distribution of Load Score by Facility						Total Load Score
						0	1	2	3	4	5	
Other	Dichlorobenzene, 1,2-	16	8.6E-02	9,872	8.5E+02	4	4	6	2	-	-	22
PAH	Anthracene	18	5.5E-01	741	4.1E+02	4	7	6	1	-	-	22
Other	Xylene, m-	13	1.6E-01	11,140	1.8E+03	2	4	5	1	1	-	21
Other	Xylene, p-	13	1.6E-01	8,679	1.4E+03	4	2	6	-	1	-	18
Other	Trichlorobenzene, 1,2,4-	28	4.2E-03	43,813	1.8E+02	16	7	5	-	-	-	17
Other	Cresols	37	1.4E-02	14,512	2.0E+02	24	10	2	1	-	-	17
Other	Dichloropropane, 1,2-	8	2.2E-01	4,812	1.1E+03	-	2	4	2	-	-	16
Metal	Arsenic	40	7.1E-02	1,731	1.2E+02	27	10	3	-	-	-	16
Other	Trichloroethane, 1,1,2-	12	2.0E-01	2,430	4.9E+02	3	4	4	1	-	-	15
Other	Chlorobenzene	34	2.0E-02	5,651	1.1E+02	21	11	2	-	-	-	15
Other	Dimethyl phthalate	18	1.7E-02	33,101	5.6E+02	8	7	1	2	-	-	15
Other	Hexachlorobenzene	5	3.4E+00	539	1.8E+03	-	-	1	4	-	-	14
Other	Dichloromethane	184	2.4E-04	273,711	6.6E+01	173	11	-	-	-	-	11
Other	Tetrachloroethane, 1,1,2,2-	7	3.0E-01	2,969	8.9E+02	3	1	1	2	-	-	9
Other	Dichlorobenzene, 1,4-	7	8.3E-02	2,173	1.8E+02	2	2	3	-	-	-	8
Other	Hexachlorobutadiene	4	1.9E-01	1,204	2.3E+02	1	1	1	1	-	-	6
Pesticide	Chlordane	1	5.0E+02	28	1.4E+04	-	-	-	-	-	1	5
Pesticide	BHC, gamma\Lindane	2	2.1E+02	2	3.2E+02	-	-	1	1	-	-	5
Other	Dimethylphenol, 2,4-	6	2.0E-02	1,509	3.0E+01	2	3	1	-	-	-	5
Other	Cresol, m-	8	1.4E-02	3,040	4.3E+01	4	3	1	-	-	-	5
PCB	Polychlorinated biphenyls	1	2.9E+02	66	1.9E+04	-	-	-	-	-	1	5
Other	Di-n-butyl phthalate	28	5.5E-03	5,830	3.2E+01	25	2	1	-	-	-	4
Pesticide	Methoxychlor	1	5.8E+01	5	2.9E+02	-	-	-	1	-	-	3
Other	Hexachloroethane	2	5.9E-02	291	1.7E+01	1	-	1	-	-	-	2
Pesticide	Heptachlor	1	5.8E+00	13	7.3E+01	-	-	1	-	-	-	2
Other	Cresol, o-	6	3.5E-03	10,394	3.6E+01	5	-	1	-	-	-	2

Table 4-1. (Continued)

Chemical Class	Chemical	Number of Facilities	CLS	Annual Release (lb/yr)	Adjusted Load	Distribution of Load Score by Facility						Total Load Score
						0	1	2	3	4	5	
Other	Cresol, p-	9	6.5E-05	217,420	1.4E+01	8	-	1	-	-	-	2
Other	Dichlorobenzene, 1,3-	4	1.9E-02	523	9.9E+00	2	2	-	-	-	-	2
Other	Butyl benzyl phthalate	45	1.5E-03	4,950	7.4E+00	44	1	-	-	-	-	1
Other	Ethylbenzene	220	2.8E-04	29,600	8.3E+00	219	1	-	-	-	-	1
Other	Acetone	469	3.5E-06	3,064,869	1.1E+01	469	-	-	-	-	-	0
Other	Trichlorofluoromethane	9	2.8E-05	1,700	4.8E-02	9	-	-	-	-	-	0
Other	Methyl ethyl ketone	254	5.4E-07	386,356	2.1E-01	254	-	-	-	-	-	0
Other	Dibenzofuran	5	7.3E-03	136	9.9E-01	5	-	-	-	-	-	0

Table 4-2. Analysis of PCS Data by Chemical (Sorted by Descending Load Score)

Chemical Class	Chemical	Number of Facilities	CLS	Annual Release (lb/yr)	Load	Distribution of Load Score by Facility						Total Load Score
						0	1	2	3	4	5	
Divalent Metal	Zinc	3,018	1.2E-02	10,194,441	1.2E+05	1,478	946	449	112	33	-	2,312
Divalent Metal	Copper	2,765	1.9E-02	3,123,697	5.9E+04	1,633	780	283	57	12	-	1,565
Divalent Metal	Nickel	1,320	9.7E-02	1,014,946	9.8E+04	463	431	320	92	13	1	1,404
Divalent Metal	Cadmium	1,153	5.2E-01	188,980	9.8E+04	546	363	188	47	8	1	917
Metal	Silver	675	1.4E+00	535,437	7.5E+05	179	197	214	63	20	2	904
Mercury	Mercury	749	7.0E+00	28,592	2.0E+05	269	233	172	62	9	4	819
Divalent Metal	Lead	2,018	2.3E-02	654,901	1.5E+04	1,491	376	128	21	2	-	703
Metal	Chromium	1,456	1.4E-02	525,942	7.4E+03	1,061	301	86	7	1	-	498
Metal	Arsenic	498	7.1E-02	504,168	3.6E+04	265	138	72	20	2	1	355
PCB	Polychlorinated biphenyls	62	2.9E+02	1,611	4.7E+05	12	6	13	14	13	4	146
PAH	Benzo(a)pyrene	54	4.2E+01	476	2.0E+04	3	13	10	22	6	-	123
Metal	Antimony	138	2.5E-02	255,532	6.4E+03	78	37	18	4	1	-	89
Other	Tetrachloroethene	163	6.5E-02	117,021	7.6E+03	101	41	17	3	1	-	88
Other	Bis(2-ethylhexyl) phthalate	180	2.7E-02	41,963	1.1E+03	124	39	14	3	-	-	76
Other	Xylenes	277	1.6E-01	18,816	3.0E+03	228	36	8	4	1	-	68
Pesticide	BHC, gamma- \ Lindane	32	2.1E+02	140	2.9E+04	6	4	10	8	3	1	65
PAH	Benzo(a)anthracene	35	1.1E+01	347	3.8E+03	8	6	8	13	-	-	61
PAH	Benzo(b)fluoranthene	34	4.8E+00	423	2.0E+03	5	9	13	7	-	-	56
Other	Hexachlorobenzene	40	3.4E+00	327	1.1E+03	12	12	12	4	-	-	48
Other	Trichloromethane	323	1.2E-03	1,003,597	1.2E+03	290	24	6	3	-	-	45
Pesticide	Chlordane	18	5.0E+02	57	2.9E+04	2	2	5	5	3	1	44
PAH	Benzo(k)fluoranthene	32	4.7E+00	283	1.3E+03	8	9	10	5	-	-	44
Other	Trichloroethane, 1,1,1-	144	1.3E-01	12,076	1.6E+03	111	25	7	-	1	-	43
PAH	Pyrene	40	1.4E+00	450	6.3E+02	14	12	13	1	-	-	41
Other	Tetrachloromethane	58	1.3E-01	190,869	2.5E+04	33	19	3	1	1	1	37
Other	Trichloroethene	204	1.7E-02	33,202	5.6E+02	180	15	7	2	-	-	35

Table 4-2. (Continued)

Chemical Class	Chemical	Number of Facilities	CLS	Annual Release (lb/yr)	Adjusted Load	Distribution of Load Score by Facility						Total Load Score
						0	1	2	3	4	5	
PAH	Dibenzo(a,h)anthracene	11	2.2E+02	58	1.3E+04	-	-	3	4	4	-	34
Other	Benzene	458	1.3E-02	88,624	1.2E+03	437	10	9	2	-	-	34
Pesticide	DDT	14	2.1E+02	391	8.2E+04	3	1	5	3	-	2	30
Other	Dichloropropane, 1,2-	40	2.2E-01	3,544	7.8E+02	18	16	4	2	-	-	30
Other	Toluene	430	2.5E-03	155,171	3.9E+02	410	11	8	1	-	-	30
Pesticide	Toxaphene	15	4.6E+01	96	4.4E+03	2	3	5	4	1	-	29
Pesticide	Dieldrin	12	1.6E+03	377	6.0E+05	1	3	2	4	1	1	28
PAH	Chrysene	33	1.0E+00	296	3.0E+02	14	10	9	-	-	-	28
Other	Trichloroethane, 1,1,2-	50	2.0E-01	698	1.4E+02	28	17	5	-	-	-	27
Other	Pentachlorophenol	32	7.9E-01	1,395	1.1E+03	14	10	7	1	-	-	27
PAH	Anthracene	32	5.5E-01	339	1.9E+02	13	11	8	-	-	-	27
PCB	PCB-1242	16	2.9E+02	5	1.6E+03	2	6	3	5	-	-	27
PCB	PCB-1248	14	2.9E+02	11	3.1E+03	2	4	4	3	1	-	25
PAH	Indeno(1,2,3-cd)pyrene	12	1.3E+01	61	8.0E+02	2	3	3	4	-	-	21
PCB	PCB-1016	12	2.9E+02	3	8.3E+02	2	3	3	4	-	-	21
PAH	Phenanthrene	45	1.5E-01	26,362	4.0E+03	29	14	1	-	1	-	20
Other	Dichloroethane, 1,2-	89	1.8E-02	8,700	1.6E+02	73	12	4	-	-	-	20
PCB	PCB-1254	13	2.9E+02	3	7.7E+02	3	3	4	3	-	-	20
Other	Dichlorobenzene, 1,2-	44	8.6E-02	1,462	1.3E+02	29	11	4	-	-	-	19
PCB	PCB-1260	12	2.9E+02	2	7.2E+02	2	4	3	3	-	-	19
Pesticide	DDD	11	2.6E+02	70	1.8E+04	4	1	3	2	-	1	18
Other	Dichlorobenzene, 1,4-	50	8.3E-02	1,492	1.2E+02	34	14	2	-	-	-	18
PCB	PCB-1221	11	2.9E+02	3	9.6E+02	2	3	3	3	-	-	18
PCB	PCB-1232	11	2.9E+02	2	7.2E+02	2	3	3	3	-	-	18
Pesticide	DDE	11	3.4E+02	1,145	3.9E+05	4	1	4	1	-	1	17
Other	Hexachlorobutadiene	35	1.9E-01	455	8.6E+01	20	14	1	-	-	-	16

Table 4-2. (Continued)

Chemical Class	Chemical	Number of Facilities	CLS	Annual Release (lb/yr)	Ajdusted Load	Distribution of Load Score by Facility						Total Load Score
						0	1	2	3	4	5	
Pesticide	Aldrin	14	4.5E+02	2	7.3E+02	5	4	4	1	-	-	15
Other	Acrylonitrile	41	4.7E-02	1,784	8.4E+01	29	10	2	-	-	-	14
Other	Diethyl phthalate	43	7.1E-02	4,377	3.1E+02	33	8	1	1	-	-	13
PAH	Fluorene	35	1.2E-01	422	5.1E+01	23	11	1	-	-	-	13
Other	Dibromochloromethane	38	2.1E-02	10,335	2.2E+02	28	8	1	1	-	-	13
PAH	Fluoranthene	42	1.2E-01	373	4.5E+01	29	13	-	-	-	-	13
Pesticide	BHC, alpha-	10	2.6E+02	30	7.9E+03	5	-	3	1	1	-	13
PAH	Acenaphthylene	31	1.2E-01	394	4.7E+01	20	10	1	-	-	-	12
Pesticide	Heptachlor epoxide	10	3.6E+02	2	6.3E+02	4	1	4	1	-	-	12
Pesticide	BHC, beta-	10	2.4E+02	2	4.5E+02	5	-	4	1	-	-	11
Other	Tetrachloroethane, 1,1,2,2-	14	3.0E-01	614	1.8E+02	7	5	1	1	-	-	10
Other	Nitrosodiphenylamine, N-	12	4.4E-01	2,329	1.0E+03	6	4	1	1	-	-	9
PAH	Acenaphthene	38	4.9E-02	793	3.9E+01	31	6	1	-	-	-	8
PAH	Benzo(ghi)perylene	12	8.0E-01	65	5.2E+01	6	4	2	-	-	-	8
Pesticide	Heptachlor	14	5.8E+00	56	3.2E+02	10	2	1	1	-	-	7
Pesticide	Endosulfan, alpha-	12	3.7E+01	3	9.7E+01	7	3	2	-	-	-	7
Other	Hexachloroethane	32	5.9E-02	377	2.2E+01	26	6	-	-	-	-	6
Pesticide	Endrin	20	9.3E-01	868	8.1E+02	16	3	-	1	-	-	6
Other	Dichloromethane	212	2.4E-04	175,765	4.2E+01	207	4	1	-	-	-	6
PAH	Naphthalene	122	1.4E-02	5,276	7.4E+01	118	3	1	-	-	-	5
Other	Chlorobenzene	55	2.0E-02	1,364	2.7E+01	50	5	-	-	-	-	5
Pesticide	Methoxychlor	1	5.8E+01	99	5.7E+03	-	-	-	-	1	-	4
Other	Tribromomethane	22	3.0E-02	4,611	1.4E+02	20	1	-	1	-	-	4
Pesticide	Diazinon \ Spectracide	1	9.7E+02	6	5.6E+03	-	-	-	-	1	-	4
Other	Phenol	158	1.1E-03	14,248	1.6E+01	155	3	-	-	-	-	3
Pesticide	Endosulfan mixed isomers	11	3.4E+00	5	1.7E+01	9	1	1	-	-	-	3

Table 4-2. (Continued)

Chemical Class	Chemical	Number of Facilities	CLS	Annual Release (lb/yr)	Adjusted Load	Distribution of Load Score by Facility						Total Load Score
						0	1	2	3	4	5	
Other	Dichlorobenzenes	5	8.9E-02	229	2.0E+01	3	1	1	-	-	-	3
Other	Di-n-butyl phthalate	77	5.5E-03	2,725	1.5E+01	75	2	-	-	-	-	2
Other	Dimethylphenol, 2,4-	36	2.0E-02	654	1.3E+01	34	2	-	-	-	-	2
Pesticide	BHC, delta-	9	9.2E+00	1	1.4E+01	8	-	1	-	-	-	2
Pesticide	Endosulfan, beta-	9	7.6E+00	2	1.3E+01	7	2	-	-	-	-	2
Other	Bromophenyl phenyl ether, 4-	11	7.8E-02	57	4.4E+00	10	1	-	-	-	-	1
Pesticide	DCPA/Dacthal	1	9.2E-03	286	2.6E+00	-	1	-	-	-	-	1
Other	Acetone	14	3.5E-06	4,813	1.7E-02	14	-	-	-	-	-	0
Other	Dichloroethane, 1,1-	63	1.7E-05	1,067	1.8E-02	63	-	-	-	-	-	0
Other	Trichlorofluoromethane	9	2.8E-05	7,086	2.0E-01	9	-	-	-	-	-	0
Other	Isophorone	15	2.0E-04	403	8.1E-02	15	-	-	-	-	-	0
Other	Methyl ethyl ketone	4	5.4E-07	29	1.6E-05	4	-	-	-	-	-	0
Other	Butyl benzyl phthalate	20	1.5E-03	316	4.7E-01	20	-	-	-	-	-	0
Other	Xylene, o-	13	1.5E-01	2	3.2E-01	13	-	-	-	-	-	0
Other	Cresol, o-	1	3.5E-03	0	1.7E-03	1	-	-	-	-	-	0
Other	Tetrachlorobenzene, 1,2,4,5-	1	4.5E-02	0	1.8E-03	1	-	-	-	-	-	0
Other	Ethylbenzene	200	2.8E-04	5,830	1.6E+00	200	-	-	-	-	-	0
Other	Xylene, p-	12	1.6E-01	3	5.4E-01	12	-	-	-	-	-	0
Other	Cresol, p-	1	6.5E-05	6	3.8E-04	1	-	-	-	-	-	0
Other	Xylene, m-	9	1.6E-01	1	9.9E-02	9	-	-	-	-	-	0
Other	Di-n-octyl phthalate	18	1.8E-02	184	3.3E+00	18	-	-	-	-	-	0
Other	Trichlorobenzene, 1,2,4-	41	4.2E-03	665	2.8E+00	41	-	-	-	-	-	0
Other	Dimethyl phthalate	31	1.7E-02	305	5.2E+00	31	-	-	-	-	-	0
Other	Dibenzofuran	1	7.3E-03	43	3.1E-01	1	-	-	-	-	-	0
Other	Dichloroethene, trans-1,2-	68	8.7E-06	680	5.9E-03	68	-	-	-	-	-	0
Other	Dichlorobenzene, 1,3-	34	1.9E-02	292	5.6E+00	34	-	-	-	-	-	0

Table 4-2. (Continued)

Chemical Class	Chemical	Number of Facilities	CLS	Annual Release (lb/yr)	Adjusted Load	Distribution of Load Score by Facility						Total Load Score
						0	1	2	3	4	5	
Pesticide	BHC, technical grade	2	4.8E+01	0	6.9E-01	2	-	-	-	-	-	0
Other	Pentachlorobenzene	1	1.6E-01	0	6.4E-03	1	-	-	-	-	-	0
Pesticide	Mirex \ Dechlorane	1	9.4E+01	0	3.7E-01	1	-	-	-	-	-	0
Pesticide	Chlorpyrifos \ Dursban	2	5.4E-02	10	5.5E-01	2	-	-	-	-	-	0

chemicals with a large number of potentially significant releases. The results for the DDT metabolite DDE illustrate this point. The adjusted load is very large, yet appears to be caused by a single release record. Although not ignoring the potential local importance of this individual release, the total Load Score reflects the overall national significance of point source DDE discharge.

Aggregate raw loads and Load Scores for individual chemicals are grouped by chemical class to determine which types of chemicals cause the greatest potential sediment hazard. Chemical classes are assigned in the following manner:

Divalent Metal: This group comprises five metal species (cadmium, copper, nickel, lead, and zinc) that are typically associated with acid-volatile sulfide (AVS). These metals have sulfide solubilities smaller than that of iron sulfide, making them less bioavailable as long as the AVS molar concentration (reservoir of sulfide anions in anoxic sediment) exceeds the sum of the molar concentrations of the simultaneously extracted metals.

Mercury: Mercury also has a sulfide solubility less than that of iron sulfide; however, mercury was not included with the other AVS metals because of the complicating factors of methylation in sediment and subsequent bioaccumulation. Unfortunately, the sediment chemistry screening value does not account for the effects of this bioaccumulation potential.

Other Metal: This group includes the remaining metals evaluated: antimony, arsenic, chromium, and silver.

Pesticide: This group includes chemicals that are usually large, complex, and manufactured to be biological inhibitors.

Polynuclear Aromatic Hydrocarbon (PAH): This group includes all polynuclear aromatic hydrocarbons, including those which are halogenated.

Polychlorinated Biphenyl (PCB): This group includes all measured PCBs whether reported as total PCBs or as one of seven aroclors. PCBs are highly toxic, highly bioaccumulative, and highly persistent.

Other Organic: This group includes the remaining organic chemicals not classified as pesticides, PAHs, or PCBs.

Table 4-3 depicts raw loads, adjusted load, and Load Scores by chemical class for TRI data. The TRI data show that other organic and divalent metal categories represent about 95 and 4 percent of the annual release, respectively. These same categories represent 54 and 36 percent of the Load Score. Metals (antimony, arsenic, chromium, and silver) account for 6 percent of the Load Score while less than 1 percent of the annual release. All other chemical groups account for less than 3 percent of the total Load Score for TRI data. Table 4-4 depicts raw loads, adjusted loads, and Load Scores by chemical class for PCS data. In contrast to the TRI data, divalent metals dominate the raw load and Load Score for PCS. The PCS data show that the divalent metal, other organic, and other metal categories represent 80, 10, and 10 percent of the annual release, respectively. These same categories represent 60, 7, and 16 percent of the Load Score. Mercury also contributes 7 percent to the aggregate Load Score. Contributions to the Load Score from pesticides, PAHs, and PCBs range from 3 to 5 percent.

Table 4-3. Analysis of TRI Data by Chemical Class

Chemical Class	Annual Release (lb/yr)	Adjusted Load	Distribution of Load Score*						Load Score
			0	1	2	3	4	5	
Divalent Metal	268,723	1.0E+04	1,403	704	117	16	-	-	986
Mercury	271	1.9E+03	-	3	5	6	-	-	31
Metal	63,887	2.3E+03	560	114	22	4	-	-	170
Pesticide	47	1.5E+04	-	-	2	2	-	1	15
PAH	37,952	9.3E+02	87	37	13	2	-	-	69
PCB	66	1.9E+04	-	-	-	-	-	1	5
Other Organic	6,955,304	6.7E+04	2,785	554	332	74	15	-	1,500

*Facilities are counted more than once since facilities may report loadings for more than one chemical per chemical class.

Table 4-4. Analysis of PCS Data by Chemical Class

Chemical Class	Annual Release (lb/yr)	Adjusted Load	Distribution of Load Score*						Load Score
			0	1	2	3	4	5	
Divalent Metal	15,176,965	3.9E+05	5,611	2,896	1,368	329	68	2	6,901
Mercury	28,592	2.0E+05	269	233	172	62	9	4	819
Metal	1,821,078	8.0E+05	1,583	673	390	94	24	3	1,846
Pesticide	3,646	1.2E+06	103	32	54	33	11	7	318
PAH	36,419	4.6E+04	323	134	84	56	11	-	514
PCB	1,641	4.8E+05	27	32	36	38	14	4	294
Other Organic	1,920,606	4.7E+04	3,381	386	126	31	4	1	752

*Facilities are counted more than once since facilities may report loadings for more than one chemical per chemical class.

Analysis by Watershed

To evaluate watersheds, Load Scores are grouped by USGS hydrologic unit codes. The 8-digit hydrologic unit code is one of several ways to define a watershed, and it represents four levels of organization. The first two digits represent the region. USGS divides the contiguous United States into 18 distinct hydrologic regions based on river drainage. Alaska, Hawaii, and the Caribbean are regions 19, 20, and 21, respectively. Each region is divided into as many as 30 subregions, but typically regions contain approximately 10 subregions. Subregions are represented by the first 4 digits in the 8-digit code. Subregions can be further subdivided into as many as four accounting units, represented by the first 6 digits of the 8-digit code. Accounting units, in turn, can be subdivided into as many as 10 cataloging units, represented by the full 8-digit code. For the purposes of this study, Load Scores are summed according to USGS cataloging units (8-digit code). There are more than 2,100 cataloging units (watersheds) in the United States.

Based on the data from TRI and PCS, a total Load Score was computed for 733 and 861 watersheds, respectively. For watersheds represented by both TRI and PCS the higher of the two scores was applied. This approach resulted in a total Load Score for 1,020 watersheds. Selecting the maximum Load Score, rather than adding the results, eliminates problems associated with double-counting releases; however, this approach may underestimate total releases and the "true" Load Score. Total Load Scores at the watershed level ranged from 0 to 312, although few were above 100. To divide individual watersheds into groups based on releases of sediment contaminants, EPA simply created quintiles within the 0 to 100 range. Watersheds with a total Load Score from 81 to 100 were assigned to priority group 1, or the first quintile. All watersheds with total Load Scores greater than 100 were also placed in the first quintile. Priority group 2 watersheds have a Load Score of 61 to 80. Priority group 3 watersheds have a Load Score of 41 to 60, and priority group 4 watersheds have a Load Score from 21 to 40. Priority group 5 watersheds have a Load Score from 1 to 20. Watersheds with no data or a Load Score of zero were not assigned to a priority group. Figure 4-1 presents the watersheds in the contiguous United States based on Load Score for priority groups 1 through 4.

Table 4-5 summarizes this information for each EPA region. The majority of priority group 1, 2, and 3 watersheds are in EPA Regions 2 and 5. Of the 1,020 watersheds evaluated, 17 watersheds were placed in priority group 1, 19 watersheds were placed in priority group 2, 29 watersheds were placed in priority group 3, 87 watersheds were placed in priority group 4, and 672 watersheds were placed in priority group 5. The remaining 196 watersheds had a Load Score of zero and were not assigned to a priority group. Appendix B contains a detailed table listing all of the 824 watersheds assigned to the 5 priority groups and includes information on the predominant chemical class and predominant industrial category associated with that chemical class. The following is a list of the 17 watersheds assigned to priority group 1:

Watershed Name	*State Location*
Narragansett	MA, RI
Lower Hudson	NY, CT, NJ
Hackensack-Passaic	NY, NJ
Sandy Hook-Staten Island	NY, NJ
Northern Long Island	NY
Southern Long Island	NY
Middle Delaware Musconetcong	PA, NJ
Lower Delaware	PA, NJ
Schuylkill	PA
Delaware Bay	NJ
Detroit	MI
Niagara	NY
Seneca	NY
Upper Ohio	WV, PA, OH
Lower Mississippi-Baton Rouge	LA
Buffalo-San Jacinto	TX
San Francisco Bay	CA

The general relationship between annual point source releases and results of the Survey evaluation demonstrate a co-occurrence of active discharge of sediment contaminants and evidence of sediment contamination. Figure 4-2 depicts this relationship by plotting the percent of monitoring stations with a high (Tier 1) or intermediate (Tier 2) probability of contamination in a watershed, as ascribed in the Survey, versus the watershed Load Score. Only those watersheds with at least one Tier 1 or Tier 2 station from the Survey evaluation and a Load Score above zero are plotted. In watersheds with Load Scores greater than 50,

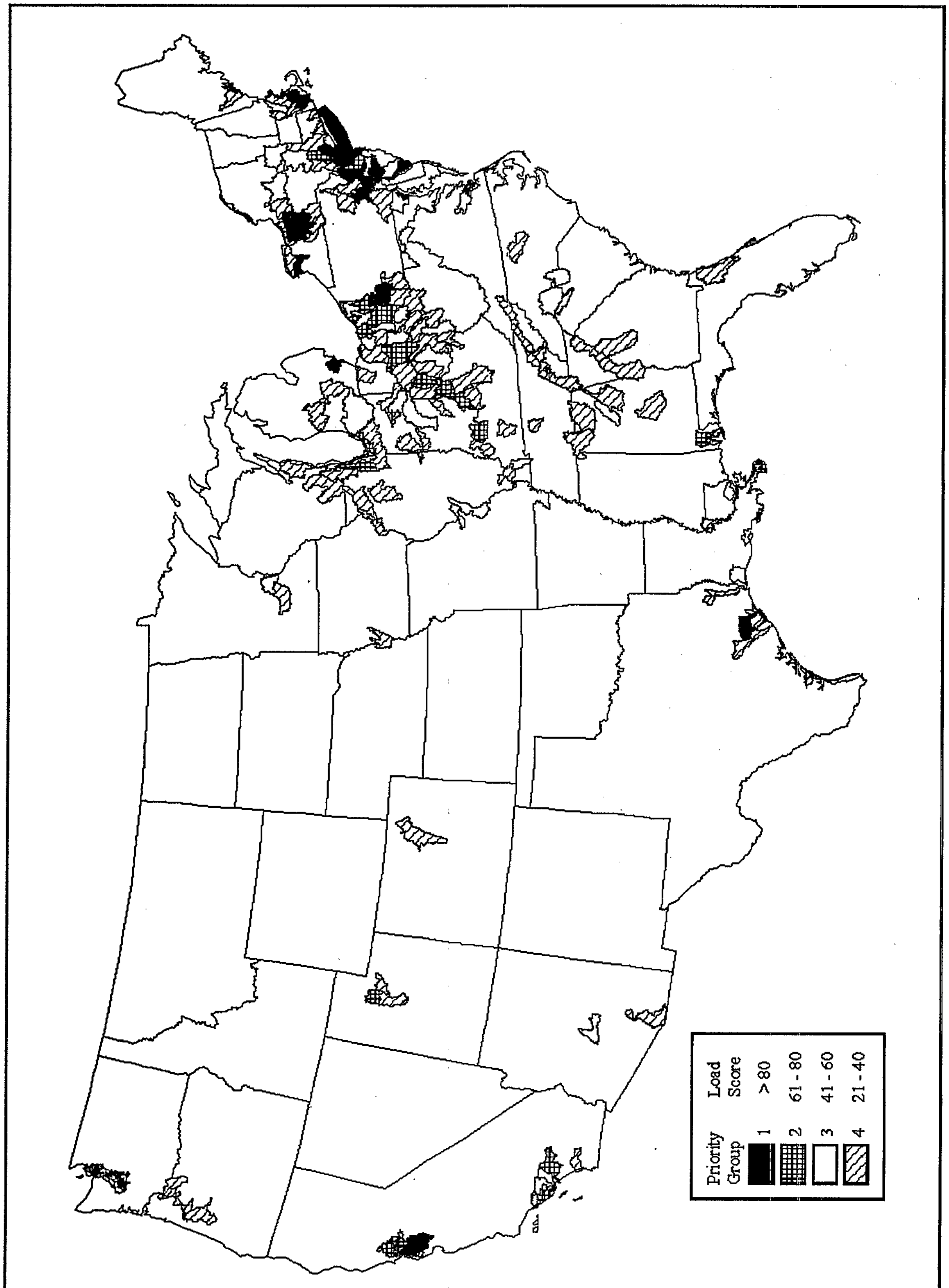

Figure 4-1. Load Score by watershed.

Table 4-5. Number of Watersheds in Each Priority Group by EPA Region[a,b]

Priority Group	EPA Region										Total Watersheds[c]
	1	2	3	4	5	6	7	8	9	10	
1	2	10	4	0	2	2	0	0	1	0	17
2	0	2	1	4	11	0	0	1	4	0	19
3	2	7	5	4	10	2	2	0	4	0	29
4	7	9	11	24	28	5	2	3	5	6	87
5	27	29	69	182	134	111	75	47	32	29	672
TOTAL	38	57	90	214	185	120	79	51	46	35	824

[a]Watersheds may be reported in more than one EPA Region.
[b]Watersheds with no reported data or a Load Score equal to 0 are not reported.
[c]Total watersheds will not equal the sum of the Regional values because watersheds may be located in more than one EPA Region.

at least 70 percent of all monitoring stations within the watershed exhibit some degree of contamination. Watersheds with relatively low Load Scores vary greatly in the extent of contamination, demonstrating the importance of contaminant sources not documented in this study, such as historical releases and nonpoint sources.

Watersheds with high Load Scores are more likely to contain areas of probable concern for sediment contamination (APCs) in the Survey evaluation. In Figure 4-2, watersheds containing APCs are plotted as dark circles, whereas all other watersheds are plotted as cross marks. Overall, approximately 10 percent of watersheds receiving point source discharges contain APCs. However, it is apparent that the fraction of watersheds containing APCs increases as the Load Score increases. In fact, watersheds containing APCs constitute 75 percent (12 of 16) of priority group 1 watersheds. Figure 4-3 further illustrates this relationship. For priority groups 2 and 3, 37 and 35 percent of the watersheds contain APCs, respectively. For priority group 4, 21 percent of the watersheds contain APCs. For priority group 5, only 8 percent of the watersheds contain APCs. Less than 1 percent of the watersheds with a Load Score of zero contain APCs.

While this analysis does not imply that point sources caused the in-place contamination, it emphasizes the potential significance of contaminant releases in areas already contaminated. There are many sources of sediment contaminants in watersheds, both active and historical, point and nonpoint. This assessment identifies specific watersheds where active point sources might play an important role. To promote natural recovery of contaminated areas, active dischargers must be adequately controlled to ensure that their releases do not perpetuate contamination problems.

Analysis by Industrial Category

Facility-level Load Scores for chemical releases were summed by industrial categories, as assigned based on the primary SIC code reported in PCS or TRI. There are 31 industrial categories overall, covering a broad range of activities. Table 4-6 lists these industrial categories by descending Load Score for TRI data. Table 4-7 presents the same information for PCS data. For TRI data, metal products and finishing, primary metal industries, petroleum refining, and industrial organic chemicals account for 67 percent of the Load Score. For PCS data, sewerage systems (i.e., POTWs), other public utilities, metal products and

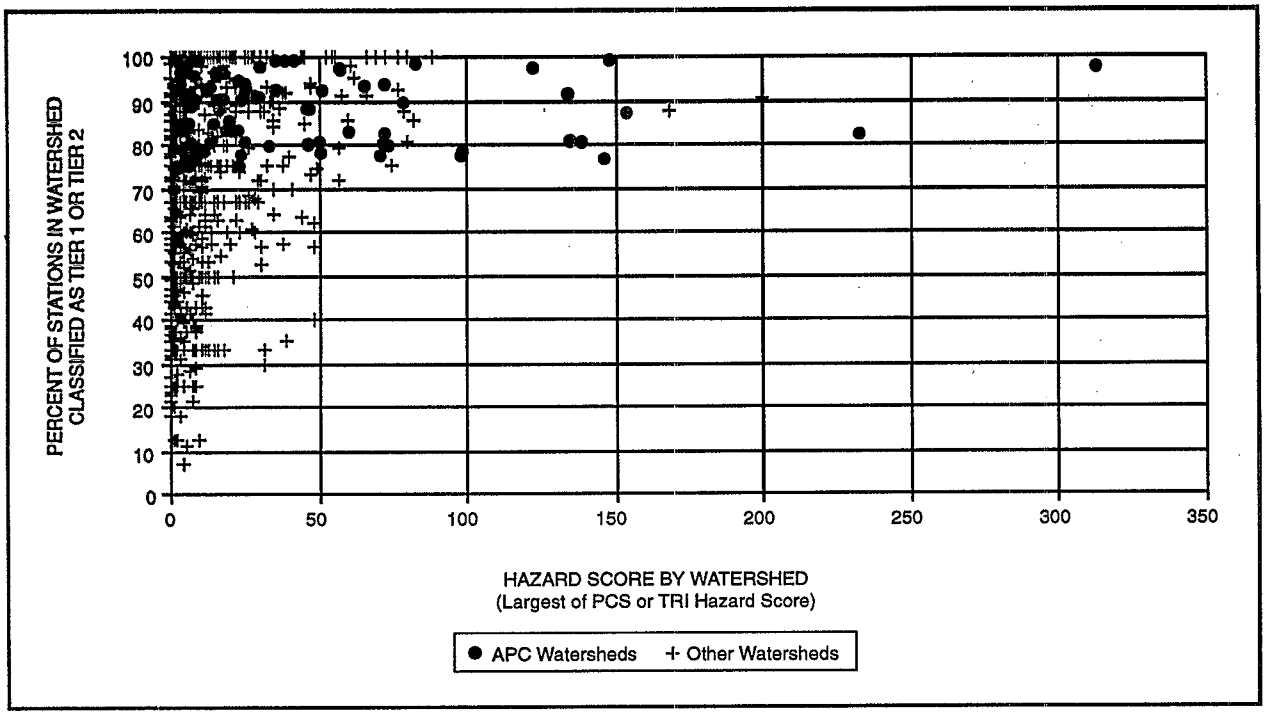

Figure 4-2. Comparison of Survey evaluation to Load Score by watershed: percent of stations classified as Tier 1 or 2 as a function of Load Score.

finishing, and industrial organic chemicals account for 80 percent of the Load Score. POTWs alone account for 62 percent of the Load Score. It should be noted that public utilities include steam electric power generators, and EPA did not attempt to account for pollutants in the intake water used by the industry. For PCS, the dominant industrial categories are also the ones required to perform the most monitoring. Thus, these results reflect data availability as much as relative sediment hazard potential. Only five TRI facilities, but a significant number of PCS facilities (198), do not fall into the defined industrial categories or do not report a primary SIC code. These facilities are listed as "Nonclassifiable."

Tables C1 and C2 in Appendix C present Load Scores grouped by chemical for each industrial category for TRI and PCS, respectively. The number of facilities within the industrial category discharging each chemical, the raw load (lb/yr), and adjusted load are also presented. These tables are not comprehensive lists of all chemicals discharged from all facilities, but are limited to industrial category-chemical combinations where the Load Scores exceed 0. Tables 4-6 and 4-7 also present the number of facilities in each industrial category. Most of the PCS facilities (38 percent) included in the loading analysis are POTWs, with other public utilities, other trade and services, metal products and finishing, and primary metal industries also well represented.

Most of the TRI facilities (44 percent) are metal products and finishing operations. Primary metal industries, industrial organic chemicals, and other chemical products represent another 14, 7, and 6 percent of the represented facilities, respectively. Some industrial categories are not well represented in either PCS or TRI. This limited representation could be a result of many facilities within the industry not qualifying for major NPDES permits (which require monthly discharge monitoring for specific chemicals), not meeting the reporting requirements for TRI, or not having release records for pollutants retained in the loading analysis.

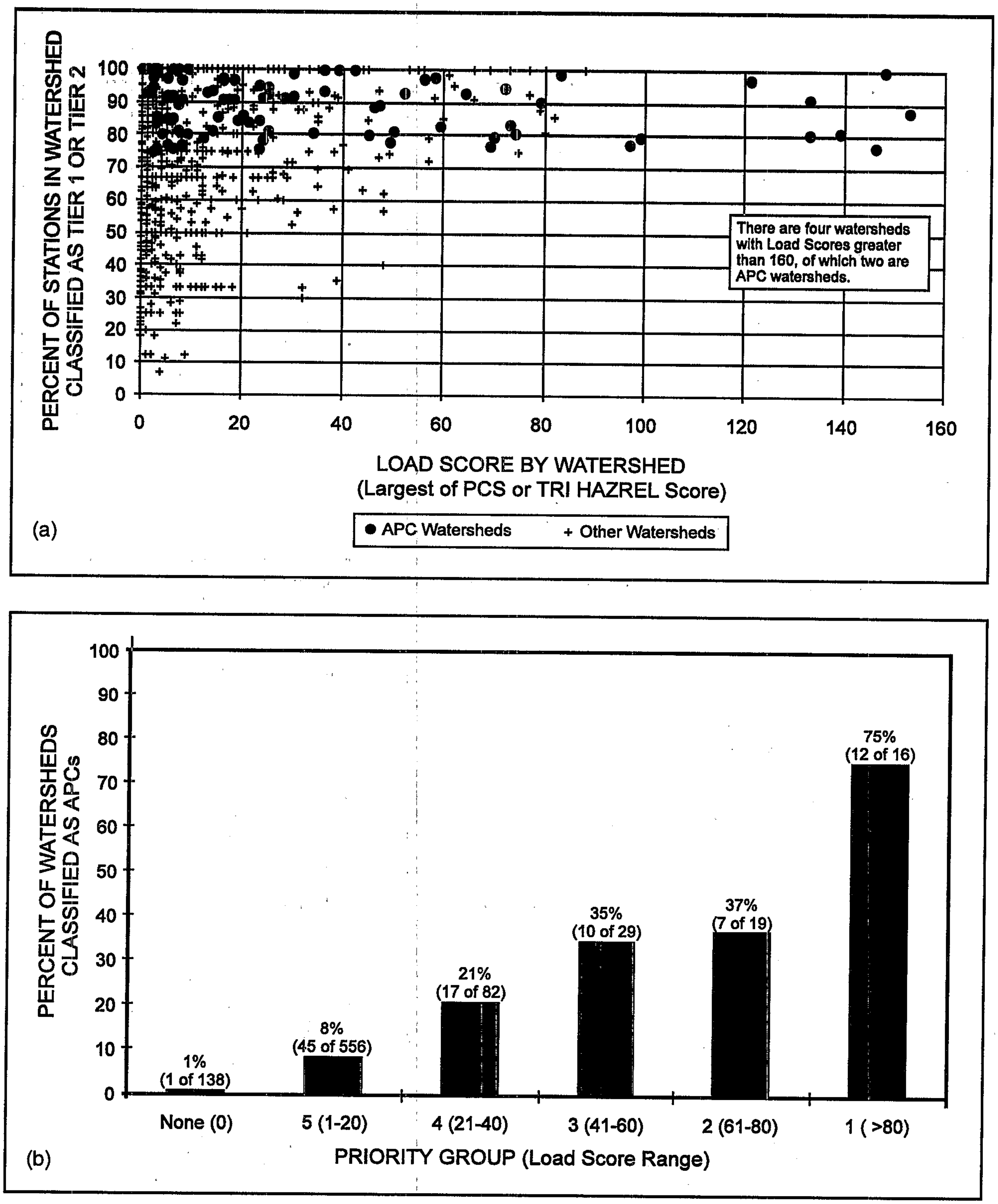

Figure 4-3. Comparison of Survey evaluation to Load Score by watershed: (a) percent of stations classified as Tier 1 or 2 as a function of Load Score, (b) percent of watersheds that contain APCs by priority group.

Table 4-6. Analysis of TRI Data by Industrial Category Sorted by Descending Load Score)

Industrial Category	Number of Facil.	Annual Release (lb/yr)	Adjusted Load	Distribution of Load Score[a]						Load Score
				0	1	2	3	4	5	
Metal Products and Finishing	1,501	508,725	1.3E+04	1,838	565	99	13	1	-	806
Primary Metal Industries	488	289,375	2.4E+04	608	269	56	10	-	1	416
Petroleum Refining	128	755,797	1.8E+04	333	127	92	16	8	-	391
Industrial Organic Chemicals	244	1,747,680	2.9E+04	454	90	50	13	2	1	242
Other Chemical Products	215	82,406	4.5E+03	386	63	34	4	1	-	147
Industrial Inorganic Chemicals	61	98,805	6.2E+03	85	25	34	14	-	-	135
Paper and Allied Products	170	1,515,980	1.1E+03	299	83	22	1	-	-	130
Plastic Materials and Synthetics	140	385,059	2.4E+03	232	35	31	4	-	-	109
Textile Products	70	272,467	7.1E+03	33	18	23	8	2	-	96
Pharmaceuticals	84	1,368,481	5.1E+03	139	31	13	8	1	-	85
Lumber and Wood Products	52	10,766	2.4E+03	63	23	8	8	-	-	63
Pesticides	24	7,466	9.6E+02	43	13	4	3	-	-	30
Rubber and Plastics Products	86	97,542	9.9E+02	99	20	3	1	-	-	29
Food and Kindred Products	21	23,427	2.4E+02	8	10	5	-	-	-	20
Furniture and Fixtures	20	10,452	1.6E+02	38	7	6	-	-	-	19
Stone, Clay, and Glass Prod.	44	21,619	2.4E+02	46	10	2	1	-	-	17
Leather and Leather Products	19	5,257	8.6E+01	14	6	3	-	-	-	12
Petroleum and Coal Products	13	119,502	7.1E+01	28	3	3	-	-	-	9
Printing and Publishing	37	3,323	3.2E+01	54	6	1	-	-	-	8
Nonclassifiable	5	1,150	3.6E+01	7	3	2	-	-	-	7
Other Trade and Services	9	922	2.3E+01	24	5	-	-	-	-	5
Tobacco Products	1	51	2.0E-01	4	-	-	-	-	-	0

[a]Facilities are counted more than once since facilities may report loadings for more than one chemical.

Conclusions

EPA conducted the screening-level sediment loading analysis of the Point Source Inventory data to obtain more information about potential sediment contamination and its sources, and to prioritize chemicals, watersheds, and industries for further evaluation. The inventory is limited by the quality, quantity, coverage, and bias of the release data in TRI and PCS. The loading analysis is limited by the lack of consideration of site-specific information, the lack of pollutant transport analysis, and the uncertainty associated with the components of the chemical-specific chemical load scores. For these reasons, the results should be used for screening purposes only, not as a definitive judgment regarding the most significant sediment contaminants, the most affected watersheds, or the most important industrial categories.

This study indicates that point source releases of sediment contaminants to surface water are ongoing and, in many cases, coincident with areas where there is evidence of contamination. TRI and PCS contain records of approximately 25,500 individual point

Table 4-7. Analysis of PCS Data by Industrial Category (Sorted by Descending Load Score)

Industrial Category	Number of Facil.	Annual Release (lb/yr)	Adjusted Load	Distribution of Load Score[a]						Load Score
				0	1	2	3	4	5	
Sewerage Systems	1,854	9,633,326	2.4E+06	3,957	2,584	1,425	416	79	15	7,073
Public Utilities	542	2,323,268	1.3E+05	1,064	220	155	71	16	2	817
Metal Products and Finishing	443	1,703,481	3.4E+05	1,303	298	104	25	13	1	638
Industrial Organic Chemicals	140	1,533,573	6.6E+04	747	259	100	35	10	1	609
Primary Metal Industries	268	463,543	2.5E+04	545	215	94	30	5	-	513
Plastic Materials and Synthetics	108	258,689	1.1E+04	406	152	58	17	2	-	327
Industrial Inorganic Chemicals	101	341,325	1.7E+04	224	87	52	16	5	-	259
Other Trade and Services	479	99,958	9.6E+03	1,326	95	25	5	2	-	168
Petroleum Refining	132	648,506	8.5E+03	186	85	36	1	2	-	168
Metal Mining	65	310,246	4.7E+03	150	69	39	1	1	-	154
Paper and Allied Products	109	519,868	7.4E+03	124	67	32	4	1	-	147
National Security	32	138,848	6.2E+04	88	36	25	3	1	1	104
Nonclassifiable	198	50,066	1.2E+03	482	43	16	4	-	-	87
Other Chemical Products	57	33,154	1.6E+03	108	39	16	4	-	-	83
Textile Products	61	608,873	9.8E+03	84	35	6	3	2	-	64
Food and Kindred Products	51	40,327	5.7E+02	73	16	14	1	-	-	47
Rubber and Plastics Products	48	124,606	3.3E+04	100	11	6	3	1	1	41
Pharmaceuticals	36	104,286	7.9E+02	86	22	4	2	-	-	36
Pesticides	16	11,916	2.5E+02	22	9	7	-	-	-	23
Nonmetallic Mineral Mining	15	4,456	1.1E+03	23	10	3	1	-	-	19
Lumber and Wood Products	23	7,494	8.7E+02	38	7	2	1	-	-	14
Stone, Clay, and Glass Products	38	5,970	2.0E+02	67	7	3	-	-	-	13
Furniture and Fixtures	7	957	8.6E+01	22	5	2	-	-	-	9
Leather and Leather Products	10	5,678	8.0E+01	13	3	3	-	-	-	9
Printing and Publishing	5	840	8.4E+01	8	6	1	-	-	-	8
Coal Mining	5	603	5.3E+01	7	4	1	-	-	-	6
Petroleum and Coal Products	11	14,712	1.5E+03	16	-	1	-	1	-	6
Construction	3	104	5.7E+00	9	1	-	-	-	-	1
Oil and Gas Extraction	11	213	4.9E+00	17	1	-	-	-	-	1
Grain Production	1	62	7.6E-01	2	-	-	-	-	-	0

[a]Facilities are counted more than once since facilities may report loadings for more than one chemical.

source releases of 111 different sediment contaminants into over 1,000 watersheds across the country from 31 distinct industrial categories. Direct releases from 4,869 facilities in PCS totaled nearly 19 million pounds per year in 1994. Based on 1993 TRI data, direct releases and transfers to POTWs (multiplied by 0.25 to account for removal during treatment) from 3,432 manufacturing facilities totaled 7.3 million lb/yr. Assuming that there is some overlap between TRI and PCS, these databases together indicate that major municipal and industrial facilities release about 20-25 million pounds of sediment contaminants annually.

This analysis indicates that metals and organic chemicals other than pesticides, PAHs, and PCBs constitute the most extensive potential sediment hazard from point sources. Although important in some instances, releases of PAHs, pesticides, and PCBs appear to be less prevalent. Survey evaluation results (Volume 1) indicate that other organic chemicals, as a class of pollutants, are not as significant as other classes. The potential sediment hazard posed by metals represents the most substantial area of agreement between the Point Source Inventory loading assessment and the Survey evaluation, on both an individual chemical basis and a watershed basis. The Point Source Inventory and Survey both rely on correlative, statistically based threshold values to evaluate the potential adverse effects of metals in sediment. Although these correlative thresholds are useful, they are limited in their application because they do not directly address the bioavailability of metals in sediment. This report further emphasizes the need for the development of practical assessment tools to evaluate the bioavailability and toxicity of metals in sediment.

The watersheds identified in this analysis represent areas where sediment contaminants are discharged; they do not necessarily represent locations where sediment contamination has occurred or will occur. Watersheds, as defined by the USGS 8-digit cataloging unit, can represent large areas encompassing large mainstem rivers and small tributary streams that vary greatly in size, shape, and physical/chemical characteristics. Transport, sediment partitioning, and sediment accumulation—whether in locations very close to the point of discharge or far downstream—depend on many factors, including streamflow, stream velocity, geomorphology, particle size distribution, organic carbon content, suspended sediment load, temperature, pH, and salinity. However, comparison with existing sediment monitoring data provides further means of screening watersheds where point sources are more likely to contribute to contamination.

A watershed with a high Load Score is more likely to contain one of the 96 areas of probable concern for sediment contamination (APCs) in the Survey evaluation. The draft EPA report *Environmental Goals for America With Milestones for 2005* (USEPA, 1996a) proposes that the Agency, together with its state partners, adequately control point sources of contamination over the next 10 years in 10 percent of the watersheds where sediment contamination is of probable concern. Specifically, major facility discharge limits need to be evaluated and appropriately revised in watersheds at greatest risk from active discharges. The objective of these evaluations should be to determine whether existing technology-based controls or water quality-based discharge limits protect downstream sediment quality to the degree necessary for natural recovery of contaminated sites. EPA is currently developing the methodology to relate point source contributions to sediment contaminant concentrations. This methodology is needed before developing permit limits protective of sediment quality. This report identifies 29 watersheds that both contain APCs from the Survey and are in Load Score priority group 1, 2, or 3 from this analysis. These watersheds should be considered for further evaluation and necessary action to achieve the milestone in EPA's Goals Report.

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Appendix A

Chemical Load Scores and Supporting Data

Table A-1. Chemical Load Scores (Sorted by Chemical Name)

CAS	Chemical Name[a]	Chemical Class	Chemical Load Score	TOXICITY Score	FATE Score	Aqueous Biodegradation Score	Air-Water Partition Score	Sediment Adsorption Score
83329	Acenaphthene	PAH	4.9E-02	7.7E-01	6.3E-02	4.0E-01	3.0E-01	5.2E-01
208968	Acenaphthylene	PAH	1.2E-01	1.6E+00	7.9E-02	2.4E-01	6.0E-01	5.6E-01
67641	Acetone	Other	3.5E-06	2.7E-03	1.3E-03	2.8E-02	4.6E-01	1.0E-01
107131	Acrylonitrile	Other	4.7E-02	1.5E+01	3.1E-03	9.1E-02	3.4E-01	1.0E-01
309002	Aldrin	Pesticide	4.5E+02	8.6E+02	5.3E-01	2.3E+00	2.3E-01	1.0E+00
120127	Anthracene	PAH	5.5E-01	9.1E-01	6.0E-01	1.8E+00	5.1E-01	6.6E-01
7440360	Antimony	Metal	2.5E-02	5.0E-03	5.0E+00	1.0E+01	1.0E+00	5.0E-01
7440382	Arsenic	Metal	7.1E-02	1.4E-02	5.0E+00	1.0E+01	1.0E+00	5.0E-01
71432	Benzene	Other	1.3E-02	1.8E+01	7.7E-04	6.3E-02	1.0E-01	1.2E-01
56553	Benzo(a)anthracene	PAH	1.1E+01	5.8E+00	2.0E+00	2.7E+00	8.0E-01	9.1E-01
50328	Benzo(a)pyrene	PAH	4.2E+01	5.8E+01	7.2E-01	2.1E+00	3.4E-01	1.0E+00
205992	Benzo(b)fluoranthene	PAH	4.8E+00	5.8E+00	8.3E-01	2.4E+00	3.4E-01	1.0E+00
191242	Benzo(ghi)perylene	PAH	8.0E-01	3.8E-01	2.1E+00	2.6E+00	8.1E-01	1.0E+00
207089	Benzo(k)fluoranthene	PAH	4.7E+00	5.8E-01	8.2E+00	8.5E+00	9.7E-01	1.0E+00
319846	BHC, alpha-	Pesticide	2.6E+02	1.0E+03	2.6E-01	5.3E-01	1.0E+00	4.9E-01
319857	BHC, beta-	Pesticide	2.4E+02	1.0E+03	2.4E-01	4.9E-01	1.0E+00	4.9E-01
319868	BHC, delta-	Pesticide	9.2E+00	9.0E+01	1.0E-01	4.0E-01	9.6E-01	2.7E-01
58899	BHC, gamma-/Lindane	Pesticide	2.1E+02	2.7E+02	7.8E-01	1.6E+00	1.0E+00	4.8E-01
608731	BHC, technical grade	Pesticide	4.8E+01	2.7E+02	1.8E-01	4.0E-01	1.0E+00	4.5E-01
92524	Biphenyl	Other	2.6E-03	9.1E-01	2.8E-03	2.8E-02	1.9E-01	5.3E-01
117817	Bis(2-ethylhexyl) phthalate	Other	2.7E-02	5.3E-01	5.2E-02	9.1E-02	5.7E-01	1.0E+00
101553	Bromophenyl phenyl ether, 4-	Other	7.8E-02	7.7E-01	1.0E-01	4.0E-01	3.4E-01	7.6E-01
85687	Butyl benzyl phthalate	Other	1.5E-03	9.1E-02	1.7E-02	2.8E-02	8.4E-01	7.2E-01
7440439	Cadmium	Divalent Metal	5.2E-01	1.0E-01	5.0E+00	1.0E+01	1.0E+00	5.0E-01
57749	Chlordane	Pesticide	5.0E+02	2.1E+02	2.4E+00	5.5E+00	4.4E-01	1.0E+00
108907	Chlorobenzene	Other	2.0E-02	1.2E+00	1.7E-02	5.9E-01	1.0E-01	2.8E-01
2921882	Chlorpyrifos/Dursban	Pesticide	5.4E-02	1.7E-01	3.2E-01	4.0E-01	1.0E+00	8.1E-01
7440473	Chromium	Metal	1.4E-02	2.7E-03	5.0E+00	1.0E+01	1.0E+00	5.0E-01
218019	Chrysene	PAH	1.0E+00	3.6E-01	2.9E+00	4.0E+00	8.0E-01	9.1E-01
7440508	Copper	Divalent Metal	1.9E-02	3.7E-03	5.0E+00	1.0E+01	1.0E+00	5.0E-01
108394	Cresol, m-	Other	1.4E-02	1.4E+00	1.0E-02	1.1E-01	9.1E-01	1.0E-01
95487	Cresol, o-	Other	3.5E-03	1.4E+00	2.5E-03	2.8E-02	9.1E-01	1.0E-01
106445	Cresol, p-	Other	6.5E-05	2.8E-01	2.4E-04	2.6E-03	9.1E-01	1.0E-01
1319773	Cresols	Other	1.4E-02	1.4E+00	9.8E-03	1.1E-01	8.6E-01	1.0E-01
1861321	DCPA/Dacthal	Pesticide	9.2E-03	4.9E-02	1.9E-01	3.6E-01	1.0E+00	5.1E-01
72548	DDD	Pesticide	2.6E+02	3.7E+01	7.1E+00	1.0E+01	7.1E-01	1.0E+00
72559	DDE	Pesticide	3.4E+02	7.2E+01	4.7E+00	1.0E+01	4.7E-01	1.0E+00
50293	DDT	Pesticide	2.1E+02	3.7E-02	5.6E+00	1.0E+01	5.6E-01	1.0E+00

Table A-1. (Continued)

CAS	Chemical Name*	Chemical Class	Chemical Load Score	TOXICITY Score	FATE Score	Aqueous Biodegradation Score	Air-Water Partition Score	Sediment Adsorption Score
84742	Di-n-butyl phthalate	Other	5.5E-03	9.1E-02	6.1E-02	9.1E-02	1.0E+00	6.7E-01
117840	Di-n-octyl phthalate	Other	1.8E-02	1.6E-01	1.1E-01	1.1E-01	1.0E+00	1.0E+00
333415	Diazinon/Spectracide	Pesticide	9.7E+02	5.3E+03	1.9E-01	4.0E-01	1.0E+00	4.7E-01
53703	Dibenzo(a,h)anthracene	PAH	2.2E+02	5.8E+01	3.7E+00	3.7E+00	1.0E+00	1.0E+00
132649	Dibenzofuran	Other	7.3E-03	5.0E-01	1.5E-02	1.1E-01	2.4E-01	5.5E-01
124481	Dibromochloromethane	Other	2.1E-02	2.3E+00	9.3E-03	7.1E-01	1.0E-01	1.3E-01
95501	Dichlorobenzene, 1,2-	Other	8.6E-02	2.9E+00	2.9E-02	7.1E-01	1.0E-01	4.1E-01
541731	Dichlorobenzene, 1,3-	Other	1.9E-02	5.9E-01	3.2E-02	7.1E-01	1.0E-01	4.5E-01
106467	Dichlorobenzene, 1,4-	Other	8.3E-02	2.9E+00	2.9E-02	7.1E-01	1.0E-01	4.1E-01
25321226	Dichlorobenzenes	Other	8.9E-02	2.9E+00	3.0E-02	7.1E-01	1.0E-01	4.2E-01
75343	Dichloroethane, 1,1-	Other	1.7E-05	2.7E-03	6.1E-03	6.1E-01	1.0E-01	1.0E-01
107062	Dichloroethane, 1,2-	Other	1.8E-02	2.5E+00	7.3E-03	7.1E-01	1.0E-01	1.0E-01
156605	Dichloroethene, trans-1,2-	Other	8.7E-06	1.4E-02	6.4E-04	5.9E-02	1.0E-01	1.1E-01
75092	Dichloromethane	Other	2.4E-04	2.1E-01	1.1E-03	1.1E-01	1.0E-01	1.0E-01
78875	Dichloropropane, 1,2-	Other	2.2E-01	1.9E+00	1.2E-01	5.1E+00	2.3E-01	1.0E-01
60571	Dieldrin	Pesticide	1.6E+03	8.1E+02	2.0E+00	4.3E+00	5.7E-01	8.4E-01
84662	Diethyl phthalate	Other	7.1E-02	1.6E+00	4.5E-02	2.2E-01	1.0E+00	2.0E-01
131113	Dimethyl phthalate	Other	1.7E-02	6.3E+00	2.8E-03	2.8E-02	1.0E+00	1.0E-01
105679	Dimethylphenol, 2,4-	Other	2.0E-02	4.8E+00	4.3E-03	2.8E-02	9.0E-01	1.7E-01
115297	Endosulfan mixed isomers	Pesticide	3.4E+00	1.9E+02	1.8E-02	5.5E-02	6.0E-01	5.6E-01
959988	Endosulfan, alpha-	Pesticide	3.7E+01	3.4E+02	1.1E-01	4.0E-01	6.0E-01	4.5E-01
33213659	Endosulfan, beta-	Pesticide	7.6E+00	7.1E+01	1.1E-01	4.0E-01	6.0E-01	4.5E-01
72208	Endrin	Pesticide	9.3E-01	2.4E+01	3.9E-02	7.9E-02	6.4E-01	7.7E-01
100414	Ethylbenzene	Other	2.8E-04	2.1E-01	1.4E-03	4.0E-02	1.0E-01	3.4E-01
206440	Fluoranthene	PAH	1.2E-01	1.6E-01	7.6E-01	1.7E+00	5.6E-01	7.8E-01
86737	Fluorene	PAH	1.2E-01	1.9E+00	6.5E-02	2.4E-01	4.7E-01	5.8E-01
76448	Heptachlor	Pesticide	5.8E+00	2.3E+02	2.6E-02	2.6E-01	1.0E-01	1.0E+00
1024573	Heptachlor epoxide	Pesticide	3.6E+02	4.5E+02	7.9E-01	2.2E+00	4.8E-01	7.6E-01
118741	Hexachlorobenzene	Other	3.4E+00	4.3E+00	7.9E-01	8.3E+00	1.0E-01	9.5E-01
87683	Hexachlorobutadiene	Other	1.9E-01	3.7E+00	5.1E-02	7.1E-01	1.0E-01	7.1E-01
67721	Hexachloroethane	Other	5.9E-02	1.0E+00	5.9E-02	7.1E-01	1.5E-01	5.3E-01
193395	Indeno(1,2,3-cd)pyrene	PAH	1.3E+01	5.8E+00	2.3E+00	2.8E+00	8.1E-01	1.0E+00
78591	Isophorone	Other	2.0E-04	2.7E-02	7.4E-03	1.1E-01	6.7E-01	1.0E-01
7439921	Lead	Divalent Metal	2.3E-02	4.6E-03	5.0E+00	1.0E+01	1.0E+00	5.0E-01
7439976	Mercury	Mercury	7.0E+00	1.4E+00	5.0E+00	1.0E+01	1.0E+00	5.0E-01
72435	Methoxychlor	Pesticide	5.8E+01	5.3E+01	1.1E+00	1.4E+00	1.0E+00	7.7E-01
78933	Methyl ethyl ketone	Other	5.4E-07	4.6E-04	1.2E-03	2.8E-02	4.2E-01	1.0E-01
2385855	Mirex/Dechlorane	Pesticide	9.4E+01	6.6E-02	1.4E+00	1.4E+00	1.0E+00	1.0E+00

Table A-1. (Continued)

CAS	Chemical Name[a]	Chemical Class	Chemical Load Score	TOXICITY Score	FATE Score	Aqueous Biodegradation Score	Air-Water Partition Score	Sediment Adsorption Score
91203	Naphthalene	PAH	1.4E-02	2.1E+00	6.5E-03	7.9E-02	2.1E-01	3.9E-01
7440020	Nickel	Divalent Metal	9.7E-02	1.9E-02	5.0E+00	1.0E+01	1.0E+00	5.0E-01
86306	Nitrosodiphenylamine, N-	Other	4.4E-01	7.7E+00	5.7E-02	1.3E-01	1.0E+00	4.2E-01
12674112	PCB-1016	PCB	2.9E+02	4.0E+02	7.4E-01	2.3E+00	3.6E-01	8.9E-01
11104282	PCB-1221	PCB	2.9E+02	4.0E+02	7.4E-01	2.3E+00	3.6E-01	8.9E-01
11141165	PCB-1232	PCB	2.9E+02	4.0E+02	7.4E-01	2.3E+00	3.6E-01	8.9E-01
53469219	PCB-1242	PCB	2.9E+02	4.0E+02	7.4E-01	2.3E+00	3.6E-01	8.9E-01
12672296	PCB-1248	PCB	2.9E+02	4.0E+02	7.4E-01	2.3E+00	3.6E-01	8.9E-01
11097691	PCB-1254	PCB	2.9E+02	4.0E+02	7.4E-01	2.3E+00	3.6E-01	8.9E-01
11096825	PCB-1260	PCB	2.9E+02	4.0E+02	7.4E-01	2.3E+00	3.6E-01	8.9E-01
608935	Pentachlorobenzene	Other	1.6E-01	1.4E+00	1.1E-01	1.4E+00	1.0E-01	8.1E-01
87865	Pentachlorophenol	Other	7.9E-01	1.4E+00	5.5E-01	7.0E-01	1.0E+00	7.8E-01
85018	Phenanthrene	PAH	1.5E-01	5.6E-01	2.6E-01	7.9E-01	5.1E-01	6.6E-01
108952	Phenol	Other	1.1E-03	8.3E-01	1.4E-03	1.4E-02	9.9E-01	1.0E-01
1336363	Polychlorinated biphenyls	PCB	2.9E+02	4.0E+02	7.4E-01	2.3E+00	3.6E-01	8.9E-01
129000	Pyrene	PAH	1.4E+00	3.8E-01	3.5E+00	7.5E+00	6.0E-01	7.8E-01
7440224	Silver	Metal	1.4E+00	2.7E-01	5.0E+00	1.0E+01	1.0E+00	5.0E-01
95943	Tetrachlorobenzene, 1,2,4,5-	Other	4.5E-02	9.4E-01	4.8E-02	7.1E-01	1.0E-01	6.8E-01
79345	Tetrachloroethane, 1,1,2,2-	Other	3.0E-01	5.6E+00	5.4E-02	7.1E-01	4.2E-01	1.8E-01
127184	Tetrachloroethene	Other	6.5E-02	1.9E+00	3.4E-02	1.4E+00	1.0E-01	2.4E-01
56235	Tetrachloromethane	Other	1.3E-01	3.6E+00	3.6E-02	1.4E+00	1.0E-01	2.5E-01
108883	Toluene	Other	2.5E-03	1.1E+00	2.2E-03	8.7E-02	1.0E-01	2.6E-01
8001352	Toxaphene	Pesticide	4.6E+01	5.5E+01	8.3E-01	1.4E+00	6.7E-01	8.7E-01
75252	Tribromomethane	Other	3.0E-02	1.5E+00	2.0E-02	7.1E-01	1.6E-01	1.7E-01
120821	Trichlorobenzene, 1,2,4-	Other	4.2E-03	1.1E-01	3.8E-02	7.1E-01	1.0E-01	5.4E-01
71556	Trichloroethane, 1,1,1-	Other	1.3E-01	5.9E+00	2.1E-02	1.1E+00	1.0E-01	2.0E-01
79005	Trichloroethane, 1,1,2-	Other	2.0E-01	1.6E+00	1.2E-01	1.4E+00	8.4E-01	1.0E-01
79016	Trichloroethene	Other	1.7E-02	4.8E-01	3.5E-02	1.4E+00	1.0E-01	2.5E-01
75694	Trichlorofluoromethane	Other	2.8E-05	9.4E-04	3.0E-02	1.4E+00	1.0E-01	2.1E-01
67663	Trichloromethane	Other	1.2E-03	1.7E-01	7.1E-03	7.1E-01	1.0E-01	1.0E-01
108383	Xylene, m-	Other	1.6E-01	4.0E+01	4.0E-03	1.1E-01	1.0E-01	3.6E-01
95476	Xylene, o-	Other	1.5E-01	4.0E+01	3.8E-03	1.1E-01	1.0E-01	3.4E-01
106423	Xylene, p-	Other	1.6E-01	4.0E+01	3.9E-03	1.1E-01	1.0E-01	3.5E-01
1330207	Xylenes	Other	1.6E-01	4.0E+01	4.0E-03	1.1E-01	1.0E-01	3.6E-01
7440666	Zinc	Divalent Metal	1.2E-02	2.4E-03	5.0E+00	1.0E+01	1.0E+00	5.0E-01

[a]Chemicals shown have necessary fate and transport data and toxicity information to calculate CLSs. Chemicals shown also have available data in PCS and/or TRI.

Table A-2. Sediment Chemistry Screening Values (Sorted by Chemical Name)

CAS	Chemical Name	Estimated Sediment Chemistry Screening Values (ppm)[a]	Guideline Type	Sediment Quality Criteria (1%OC) AQ-SQC (ppm)	Sediment Quality Advisory Level (1%OC) AQ-SQAL (ppm)[b]	Effects Range-Median AQ-ERM (ppm)	Apparent Effects Threshold-High AQ-AETH (ppm)	Probable Effects Level AQ-PEL (ppm)	EPA Cancer Risk 10^5 HH-C (ppm)	EPA Noncancer Hazard Quotient = 1 HH-NC (ppm)	Biota-Sediment Accumulation Factor (unitless)
83329	Acenaphthene	1.3	AQ-SQC	1.3	1.3	0.5	2	0.0889		650	0.29
208968	Acenaphthylene	0.64	AQ-ERM			0.64	1.3	0.128			
67641	Acetone	370	HH-NC							1100	1
98862	Acetophenone	—[c]								1100	
107028	Acrolein	—[c]								220	
107131	Acrylonitrile	0.067	HH-C						0.2	11	1
15972608	Alachlor/Lasso	—[c]							1.3	110	
116063	Aldicarb/Temik	—[c]								11	
309002	Aldrin	0.0012	HH-C						0.0063	0.32	1.8
62533	Aniline	—[c]							19		
120127	Anthracene	1.1	AQ-ERM			1.1	13	0.245		3200	0.29
999999933	Anthracene&Phenanthrene	1.8	AQ-SQAL		1.8	1.1	6.9	0.245		3200	0.29
7440360	Antimony	200	AQ-AETH				200			4.3	
7440382	Arsenic	70	AQ-ERM			70	700	41.6	0.062	3.2	
1912249	Atrazine	—[c]							0.49	380	
7440393	Barium	—[c]								750	
71432	Benzene	0.057	AQ-SQAL		0.057				3.7		1
92875	Benzidine	—[c]							0.00047	32	
56553	Benzo(a)anthracene	0.17	HH-C			1.6	5.1	0.693	0.15		0.29
999999955	Benzo(a)anthracene/Chrysene	0.17	HH-C			1.6	5.1	0.693	0.15		0.29
50328	Benzo(a)pyrene	0.017	HH-C			1.6	3.6	0.763	0.015		0.29
205992	Benzo(b)fluoranthene	0.17	HH-C				9.9		0.15		0.29
191242	Benzo(ghi)perylene	2.6	AQ-AETH				2.6				
207089	Benzo(k)fluoranthene	1.7	HH-C				9.9		1.5		0.29
65850	Benzoic acid	0.76	AQ-AETH				0.76			43000	
98077	Benzotrichloride	—[c]							0.0083		
100516	Benzyl alcohol	0.87	AQ-AETH				0.87			3200	
100447	Benzyl chloride	—[c]							0.63		
7440417	Beryllium	—[c]							0.025	54	
319846	BHC, alpha-	0.0010	AQ-PEL					0.00099	0.017		1.8
319857	BHC, beta-	0.0010	AQ-PEL					0.00099	0.06		1.8
319868	BHC, delta-	0.011	HH-C		0.13			0.00099	0.06		1.8
58899	BHC, gamma-/Lindane	0.0037	AQ-SQAL		0.0037			0.00099	0.083	3.2	1.8
608731	BHC, technical grade	0.0037	AQ-SQAL		0.0037			0.00099	0.06	3.2	1.8
92524	Biphenyl	1.1	AQ-SQAL		1.1					540	0.29
111444	Bis(2-chloroethyl)ether	—[c]							0.098		
108601	Bis(2-chloroisopropyl)ether	—[c]							1.5	430	
117817	Bis(2-ethylhexyl)phthalate	1.9	AQ-AETH				1.9	2.65	7.7	220	1
542881	Bis(chloromethyl)ether	—[c]							0.00049		
7440428	Boron	—[c]								970	
75274	Bromodichloromethane	—[c]							1.7	220	
74839	Bromomethane	—[c]								15	

Table A-2. (Continued)

CAS	Chemical Name	Estimated Sediment Chemistry Screening Values (ppm)[a]	Guideline Type	Sediment Quality Criteria (1%OC) AQ-SQC (ppm)	Sediment Quality Advisory Level (1%OC) AQ-SQAL (ppm)[b]	Effects Range-Median AQ-ERM (ppm)	Apparent Effects Threshold-High AQ-AETH (ppm)	Probable Effects Level AQ-PEL (ppm)	EPA Cancer Risk 10^5 HH-C (ppm)	EPA Noncancer Hazard Quotient = 1 HH-NC (ppm)	Biota-Sediment Accumulation Factor (unitless)
101553	Bromophenyl phenyl ether, 4-	1.3	AQ-SQAL		1.3					620	1
1689845	Bromoxynil	—[c]								220	
85687	Butyl benzyl phthalate	11	AQ-SQAL		11		0.9			2200	1
7440439	Cadmium	9.6	AQ-ERM			9.6	9.6	4.21		5.4	
63252	Carbaryl/Sevin	—[c]								1100	
1563662	Carbofuran/furadan	—[c]								54	
75150	Carbon disulfide	—[c]								1100	
133904	Chloramben	—[c]								160	
57749	Chlordane	0.0048	AQ-PEL					0.00479	0.083	0.65	4.77
5103719	Chlordane, alpha(cis)-	0.0048	AQ-PEL					0.00479	0.083	0.65	4.77
5103742	Chlordane, beta(trans)-	0.0048	AQ-PEL					0.00479	0.083	0.65	4.77
5566347	Chlordane, gamma(trans)-	0.0048	AQ-PEL					0.00479	0.083	0.65	2
999999247	Chlordane-Nonachlor(cis)-	0.0048	AQ-PEL					0.00479	0.083	0.65	2.22
999999248	Chlordane-Nonachlor(trans)-	0.0048	AQ-PEL					0.00479	0.083	0.65	4.77
108907	Chlorobenzene	0.82	AQ-SQAL		0.82					220	1
510156	Chlorobenzilate	—[c]							0.4	220	
75003	Chloroethane	—[c]								4300	
75014	Chloroethene	—[c]							0.057		
110758	Chloroethylvinyl ether, 2-	—[c]								270	
74873	Chloromethane	—[c]							8.3		
91587	Chloronaphthalene, 2-	—[c]								860	
95578	Chlorophenol, 2-	—[c]								54	
2921882	Chlorpyrifos/Dursban	5.9	HH-NC							32	1.8
7440473	Chromium	370	AQ-ERM			370	270	160		54	
218019	Chrysene	2.8	AQ-ERM			2.8	9.2	0.846	15		0.29
7440508	Copper	270	AQ-ERM			270	1300	108		400	
108394	Cresol, m-	0.72	AQ-AETH				0.72			540	
95487	Cresol, o	0.72	AQ-AETH				0.72			540	
106445	Cresol, p-	3.6	AQ-AETH				3.6			54	
1319773	Cresols	0.72	AQ-AETH				0.72			54	
98828	Cumene	—[c]								430	
21725462	Cyanazine	—[c]							0.13	22	
57125	Cyanide	—[c]								220	
1861321	DCPA/Dacthal	20	HH-NC							110	1.8
53190	DDD, o,p'-	0.027	AQ-ERM			0.027	0.043	0.00781	0.45		0.28
72548	DDD, p, p'-	0.027	AQ-ERM			0.027	0.043	0.00781	0.45		0.28
3424826	DDE, o,p'-	0.014	HH-C			0.027	0.015	0.374	0.32		7.7
72559	DDE, p, p'-	0.014	HH-C			0.027	0.015	0.374	0.32		7.7
999999300	DDT (Total)	0.014	HH-C			0.0461	0.015	0.0517	0.32	5.4	7.7
789026	DDT, o,p'-	0.027	AQ-ERM			0.027	0.034	0.00477	0.32	5.4	1.67
50293	DDT, p, p'-	0.027	AQ-ERM			0.027	0.034	0.00477	0.32	5.4	1.67
1163195	Decabromodiphenyl oxide	—[c]								110	

Table A-2. (Continued)

CAS	Chemical Name	Estimated Sediment Chemistry Screening Values (ppm)[a]	Guideline Type	Sediment Quality Criteria (1%OC) AQ-SQC (ppm)	Sediment Quality Advisory Level (1%OC) AQ-SQAL (ppm)[b]	Effects Range-Median AQ-ERM (ppm)	Apparent Effects Threshold-High AQ-AETH (ppm)	Probable Effects Level AQ-PEL (ppm)	EPA Cancer Risk 10^5 HH-C (ppm)	EPA Noncancer Hazard Quotient = 1 HH-NC (ppm)	Biota-Sediment Accumulation Factor (unitless)
84742	Di-n-butyl phthalate	11	AQ-SQAL		11		1.4			1100	1
117840	Di-n-octyl phthalate	6.2	AQ-AETH				6.2			220	1
333415	Diazinon/Spectracide	0.0002	AQ-SQAL		0.00019					9.7	1.8
53703	Dibenzo(a,h)anthracene	0.017	HH-C			0.26	0.97	0.135	0.015		0.29
132649	Dibenzofuran	2	AQ-SQAL		2		1.7			43	1
96128	Dibromo-3-chloropropane, 1,2-	—[c]							0.077		
124481	Dibromochloromethane	0.43	HH-C						1.3	220	1
1918009	Dicamba	—[c]								320	
95501	Dichlorobenzene, 1,2-	0.34	AQ-SQAL		0.34		0.05			970	1
541731	Dichlorobenzene, 1,3-	1.7	AQ-SQAL		1.7					960	1
106467	Dichlorobenzene, 1,4-	0.35	AQ-SQAL		0.35		0.12		4.5		1
25321226	Dichlorobenzenes	0.34	AQ-SQAL		0.34		0.05		4.5	960	1
91941	Dichlorobenzidine, 3,3'-	—[c]							0.24		
75718	Dichlorodifluoromethane	—[c]								2200	
75343	Dichloroethane 1,1-	367	HH-NC							1100	1
107062	Dichloroethane 1,2-	0.4	HH-C						1.2		1
75354	Dichloroethene, 1,1-	—[c]							0.18	97	
156605	Dichloroethene, trans-1,2-	73	HH-NC							220	1
156592	Dichloroethylene, cis-1,2-	—[c]								110	
75092	Dichloromethane	4.7	HH-C						14	650	1
120832	Dichlorophenol, 2,4-	—[c]								32	
94757	Dichlorophenoxyacetic acid, 2,4-	—[c]								110	
94826	Dichlorophenoxybutanoic acid, 2,4-	—[c]								86	
78875	Dichloropropane, 1,2-	0.53	HH-C						1.6		1
542756	Dichloropropene, 1,3-	—[c]							0.62	3.2	
62737	Dichlorvos	—[c]							0.37	5.4	
115322	Dicofol/Kelthane	—[c]							0.24		
60571	Dieldrin	0.0012	HH-C	0.11	0.11			0.0043	0.0067	0.54	1.8
84662	Diethyl phthalate	0.63	AQ-SQAL		0.63		0.2			8600	1
119904	Dimethoxybenzidine,3,3'-	—[c]							7.7		
131113	Dimethyl phthalate	0.16	AQ-AETH				0.16			110000	1
105679	Dimethylphenol, 2,4-	0.21	AQ-AETH				0.21			220	
528290	Dinitrobenzene, 1,2-	—[c]								4.3	
99650	Dinitrobenzene, 1,3-	—[c]								1.1	
100254	Dinitrobenzene, 1,4	—[c]								4.3	
51285	Dinitrophenol, 2,4-	—[c]								22	
121142	Dinitrotoluene, 2,4-	—[c]								22	
606202	Dinitrotoluene, 2,6-	—[c]								11	
88857	Dinoseb/DNBP	—[c]								11	
122667	Diphenylhydrazine, 1,2-	—[c]							0.13		
298044	Disulfoton	—[c]								0.43	

Table A-2. (Continued)

CAS	Chemical Name	Estimated Sediment Chemistry Screening Values (ppm)[a]	Guideline Type	Sediment Quality Criteria (1%OC) AQ-SQC (ppm)	Sediment Quality Advisory Level (1%OC) AQ-SQAL (ppm)[b]	Effects Range-Median AQ-ERM (ppm)	Apparent Effects Threshold-High AQ-AETH (ppm)	Probable Effects Level AQ-PEL (ppm)	EPA Cancer Risk 10^5 HH-C (ppm)	EPA Noncancer Hazard Quotient = 1 HH-NC (ppm)	Biota-Sediment Accumulation Factor (unitless)
115297	Endosulfan mixed isomers	0.0054	AQ-SQAL		0.0054					65	1.8
959988	Endosulfan, alpha-	0.0029	AQ-SQAL		0.0029					65	1.8
33213659	Endosulfan, beta-	0.014	AQ-SQAL		0.014					65	1.8
72208	Endrin	0.042	AQ-SQC	0.042	0.042					3.2	1.8
563122	Ethion/Bladen	1	HH-NC							5.4	1.8
141786	Ethyl acetate	—[c]								9700	
100414	Ethylbenzene	4.8	AQ-SQAL		4.8		0.037			1100	1
106934	Ethylene dibromide	—[c]							0.0013		
206440	Fluoranthene	6.2	AQ-SQC	6.2	6.2	5.1	30	1.494		430	0.29
86737	Fluorene	0.54	AQ-SQAL		0.54	0.54	3.6	0.144		430	0.29
944229	Fonofos	—[c]								22	
76448	Heptachlor	0.0044	HH-C						0.024	5.4	1.8
1024573	Heptachlor epoxide	0.0022	HH-C						0.012	0.14	1.8
118741	Hexachlorobenzene	0.23	AQ-AETH				0.23		0.067	8.6	0.09
87683	Hexachlorobutadiene	0.27	AQ-AETH				0.27		1.4	2.2	1
74474	Hexachlorocyclopentadiene	—[c]									
67721	Hexachloroethane	1	AQ-SQAL		1				7.7	11	1
51235042	Hexazinone	—[c]								360	
999999484	HMW_PAHs	9.6	AQ-ERM			9.6	69	6.676			
123319	Hydroquinone	—[c]								430	
193395	Indeno(1,2,3-cd)pyrene	0.17	HH-C				2.6		0.15		0.29
78591	Isophorone	37	HH-C						110	2200	1
33820530	Isopropalin	—[c]								160	
7439921	Lead	218	AQ-ERM			218	660	112			
999999502	LMW_PAHs	3.2	AQ-ERM			3.16	24	1.442			
121755	Malathion	0.0007	AQ-SQAL		0.00067					220	1.8
108316	Maleic anhydride	—[c]								1100	
7439965	Manganese	—[c]								54	
7439976	Mercury	0.71	AQ-ERM			0.71	2.1	0.696		1.1	
72435	Methoxychlor	0.019	AQ-SQAL		0.019					54	1.8
78933	Methyl ethyl ketone	2200	HH-NC							6500	1
108101	Methyl isobutyl ketone	—[c]								860	
22967926	Methyl Mercury	—[c]								1.1	
91576	Methylnaphthalene, 2-	0.67	AQ-ERM			0.67	1.9	0.201			
21087649	Metribuzin	—[c]								270	
2385855	Mirex/Dechlorane	0.015	HH-C						0.06	2.2	1.31
7439987	Molybdenum	—[c]								54	
91203	Naphthalene	0.47	AQ-SQAL		0.47	2.1	2.7	0.391		430	0.29
91598	Naphthylamine, 2-	—[c]							0.00083		
7440020	Nickel	52	AQ-ERM			51.6		42.8		220	
98953	Nitrobenzene	—[c]								5.4	
100027	Nitrophenol, 4	—[c]								670	

Table A-2. (Continued)

CAS	Chemical Name	Estimated Sediment Chemistry Screening Values (ppm)[a]	Guideline Type	Sediment Quality Criteria (1%OC) AQ-SQC (ppm)	Sediment Quality Advisory Level (1%OC) AQ-SQAL (ppm)[b]	Effects Range-Median AQ-ERM (ppm)	Apparent Effects Threshold-High AQ-AETH (ppm)	Probable Effects Level AQ-PEL (ppm)	EPA Cancer Risk 10^5 HH-C (ppm)	EPA Noncancer Hazard Quotient = 1 HH-NC (ppm)	Biota-Sediment Accumulation Factor (unitless)
924163	Nitrosodi-n-butylamine, N-	—[c]							0.02		
621647	Nitrosodi-n-propylamine, N-	—[c]							0.015		
86306	Nitrosodiphenylamine, N-	0.13	AQ-AETH				0.13		22		
55185	Nitrosodmiethylamine, N-	—[c]							0.0021		
56382	Parathion ethyl	—[c]								65	
12674112	PCB(Aroclor-1016)	0.0025	HH-C			0.18	3.1	0.189	0.014	0.75	1.85
11104282	PCB(Aroclor-1221)	0.0025	HH-C			0.18	3.1	0.189	0.014	0.22	1.85
11141165	PCB(Aroclor-1232)	0.0025	HH-C			0.18	3.1	0.189	0.014	0.22	1.85
53469219	PCB(Aroclor-1242)	0.0025	HH-C			0.18	3.1	0.189	0.014	0.22	1.85
12672296	PCB(Aroclor-1248)	0.0025	HH-C			0.18	3.1	0.189	0.014	0.22	1.85
11097691	PCB(Aroclor-1254)	0.0025	HH-C			0.18	3.1	0.189	0.014	0.22	1.85
11096825	PCB(Aroclor-1260)	0.0025	HH-C			0.18	3.1	0.189	0.014	0.22	1.85
608935	Pentachlorobenzene	0.69	AQ-SQAL		0.69					8.6	0.04
82688	Pentachloronitrobenzene/Quintozene	—[c]							0.41	32	
87865	Pentachlorophenol	0.69	AQ-AETH				0.69		0.9	320	
85018	Phenanthrene	1.8	AQ-SQC	1.8	1.8	1.5	6.9	0.544			
108952	Phenol	1.2	AQ-AETH				1.2			6500	
298022	Phorate/Famophos/Thimet	—[c]								2.2	
85449	Phthalic anhydride	—[c]								22000	
1336363	Polychlorinated biphenyls	0.0025	HH-C			0.18	3.1	0.189	0.014	0.22	1.85
1610180	Prometon/Pramitol	—[c]								160	
7287196	Prometym/Caparol	—[c]								43	
23950585	Pronamide	—[c]								810	
1918167	Propachlor	—[c]								140	
129000	Pyrene	2.6	AQ-ERM			2.6	16	1.398		320	0.29
91225	Quinoline	—[c]							0.009		
91225	Quinoline	—[c]							0.009		
888888882	SEM_est	—[c]									
7440224	Silver	3.7	AQ-ERM			3.7	6.1	1.77		54	
122349	Simazine	—[c]							0.9	54	
7440246	Strontium	—[c]								6500	
100425	Styrene	—[c]								2200	
888888881	TEF_est	—[c]							0.00000069		
13071799	Terbufos/Counter	—[c]								0.27	
886500	Terbutryn	—[c]								11	
95943	Tetrachlorobenzene, 1,2,4,5-	1.1	HH-NC							3.2	1
1746016	Tetrachlorodibenzo-p-dioxin, 2,3,7,8-	0.0000039	HH-C						0.00000069		0.059
79345	Tetrachloroethane, 1,1,2,2-	0.18	HH-C		1.6				0.54		1
127184	Tetrachloroethene	0.53	AQ-SQAL		0.53		0.14		2.1	110	1
56235	Tetrachloromethane	0.28	HH-C		1.2				0.83	7.5	1
58902	Tetrachlorophenol, 2,3,4,6-	—[c]								320	
961115	Tetrachlorvinphos/Gardona/Stirofos	—[c]							4.5	320	

Table A-2. (Continued)

CAS	Chemical Name	Estimated Sediment Chemistry Screening Values (ppm)[a]	Guideline Type	Sediment Quality Criteria (1%OC) AQ-SQC (ppm)	Sediment Quality Advisory Level (1%OC) AQ-SQAL (ppm)[b]	Effects Range-Median AQ-ERM (ppm)	Apparent Effects Threshold-High AQ-AETH (ppm)	Probable Effects Level AQ-PEL (ppm)	EPA Cancer Risk 10^5 HH-C (ppm)	EPA Noncancer Hazard Quotient = 1 HH-NC (ppm)	Biota-Sediment Accumulation Factor (unitless)
7440315	Tin	—[c]								6500	
108883	Toluene	0.89	AQ-SQAL		0.89					2200	1
8001352	Toxaphene	0.018	HH-C		0.1				0.098		1.8
75252	Tribromomethane/Bromoform	0.65	AQ-SQAL		0.65				14	220	1
120821	Trichlorobenzene, 1,2,4-	9.2	AQ-SQAL		9.2		0.064			110	1
71556	Trichloroethane, 1,1,1-	0.17	AQ-SQAL		0.17					970	1
79005	Trichloroethane, 1,1,2-	0.63	HH-C						1.9	43	1
79016	Trichloroethene	2.1	AQ-SQAL		2.1				9.8	65	1
75694	Trichlorofluoromethane	1100	HH-NC							3200	1
67663	Trichloromethane/Chloroform	6.0	HH-C						18	110	1
95954	Trichlorophenol, 2,4,5-	—[c]								1100	
88062	Trichlorophenol, 2,4,6-	—[c]							9.8		
93765	Trichlorophenoxyacetic acid, 2,4,5-	—[c]								110	
93721	Trichlorophenoxypropionic acid, 2,4,5	—[c]								86	
1582098	Trifluralin/Treflan	—[c]							14	81	
95636	Trimethylbenzene, 1,2,4-	—[c]								5.4	
118967	Trinitrotoluene	—[c]							3.6	5.4	
7440622	Vanadium	—[c]								75	
108054	Vinyl acetate	—[c]								11000	
108383	Xylene, m-	0.025	AQ-SQAL		0.025		0.12			22000	1
95476	Xylene, o-	0.025	AQ-SQAL		0.025		0.12			22000	1
106423	Xylene, p-	0.025	AQ-SQAL		0.025		0.12				1
1330207	Xylenes	0.025	AQ-SQAL		0.025		0.12			22000	1
7440666	Zinc	410	AQ-ERM			410	1600	271		3200	

[a]Screening values selected based on the following methods: (1) an aquatic life threshold was selected in descending order of availability: SQC, SQAL, ERM, AETH, PEL; (2) a human health threshold was calculated based on the TBP approach (see Site Inventory report) by dividing the lower of the available risk values by the default 3% lipids and the BSAF and multiplying by the default 1% organic carbon. The lower of the aquatic life or human health thresholds was then used as the screening value.

[b]SQALs are not equivalent to SQCs.

[c]Based on criteria presented in the Site Inventory (Appendix C), no BSAF could be developed for this chemical, and subsequently, a human health threshold could not be derived for this chemical. In addition, no aquatic life thresholds were available for this chemical; therefore, no screening value could be developed.

Table A-3. Physical and Chemical Properties (Sorted by Chemical Name)

CAS	Chemical Name	Aqueous Aerobic Biodegradation Half-Life		Henry's Law Constant		Log Octanol-Water Partition Coefficient (log K_{ow})		Predicted Sediment Adsorption Coefficient (K_{oc})
		Days	Reference	(atm-m^3/mole)	Reference	Value	Reference	
83329	Acenaphthene	102	Howard et al., 1991	1.6E-04	USEPA, 1993h	3.92	—[a]	7139
208968	Acenaphthylene	60	Howard et al., 1991	1.1E-05	USEPA, 1993h	4.1	USEPA, 1993h	10730
67641	Acetone	7	Howard et al., 1991	3.9E-05	USEPA, 1989	-0.24	—[a]	1
98862	Acetophenone	16	USEPA, 1993g	1.1E-05	Lyman et al., 1982	1.64	—[a]	41
107028	Acrolein	28	Howard et al., 1991	1.2E-04	USEPA, 1989	-0.01	—[a]	1
107131	Acrylonitrile	23	Howard et al., 1991	1.1E-04	USEPA, 1989	0.25	—[a]	2
15972608	Alachlor/Lasso	100	USEPA, 1993g	9.0E-11	—[b]	3.99	USEPA, 1993g	8365
116063	Aldicarb/Temik	361	Howard et al., 1991	6.0E-09	Lyman et al., 1982	1.1	USEPA, 1993h	12
309002	Aldrin	592	Howard et al., 1991	3.2E-04	USEPA, 1989	6.5	—[a]	2453466
62533	Aniline	26	SRC, 1993	1.9E-06	USEPA, 1989	0.98	—[a]	9
120127	Anthracene	460	Howard et al., 1991	2.6E-05	—[b]	4.55	—[a]	29712
1912249	Atrazine	742	SRC, 1993			2.6	USEPA, 1993h	360
71432	Benzene	16	Howard et al., 1991	5.4E-03	—[b]	2.13	—[a]	124
92875	Benzidine	8	Howard et al., 1991	3.9E-11	USEPA, 1989	1.66	—[a]	43
56553	Benzo(a)anthracene	680	Howard et al., 1991	1.8E-06	—[b]	5.7	—[a]	401218
50328	Benzo(a)pyrene	530	Howard et al., 1991	1.1E-04	USEPA, 1993h	6.11	—[a]	1014869
205992	Benzo(b)fluoranthene	610	Howard et al., 1991	1.1E-04	USEPA, 1993h	6.2	—[a]	1244171
191242	Benzo(ghi)perylene	650	Howard et al., 1991	1.6E-06	USEPA, 1993h	6.7	—[a]	3858158
207089	Benzo(k)fluoranthene	2140	Howard et al., 1991	4.0E-07	USEPA, 1993h	6.2	—[a]	1244171
65850	Benzoic Acid	16	USEPA, 1993g	4.6E-08	—[b]	1.86	—[a]	67
98077	Benzotrichloride	7	Howard et al., 1991			2.9	—[c]	710
100447	Benzyl chloride	28	Howard et al., 1991	4.0E-04	—[b]	2.3	—[a]	182
319846	BHC, alpha-	135	Howard et al., 1991	4.3E-11	—[b]	3.8	—[a]	5441
319857	BHC, beta-	124	Howard et al., 1991	4.3E-11	—[b]	3.81	—[a]	5566
319868	BHC, delta-	100	Howard et al., 1991	4.3E-07	USEPA, 1993h	2.8	—[c]	566
58899	BHC, gamma-/Lindane	413	Howard et al., 1991	4.3E-11	—[b]	3.73	—[a]	4644
608731	BHC, technical grade	100	USEPA, 1993g	4.3E-11	—[b]	3.61	USEPA, 1989	3539
92524	Biphenyl	7	Howard et al., 1991	4.3E-04	—[b]	3.96	—[a]	7816
111444	Bis(2-chloroethyl) ether	180	Howard et al., 1991	1.7E-05	USEPA, 1989	1.21	—[a]	15
108601	Bis(2-chloroisopropyl) ether	180	Howard et al., 1991	1.1E-04	USEPA, 1989	1.61	USEPA, 1989	38
117817	Bis(2-ethylhexyl) phthalate	23	Howard et al., 1991	1.5E-05	USEPA, 1989	7.3	—[a]	15003065
542881	Bis(chloromethyl) ether	28	Howard et al., 1991	2.1E-04	Lyman et al., 1982	0.38	USEPA, 1993h	2

Table A-3. (Continued)

CAS	Chemical Name	AQUEOUS AEROBIC BIODEGRADATION HALF-LIFE		HENRY'S LAW CONSTANT		LOG OCTANOL-WATER PARTITION COEFFICIENT (log K_{ow})		PREDICTED SEDIMENT ADSORPTION COEFFICIENT (K_{oc})
		Days	Reference	(atm-m³/mole)	Reference	Value	Reference	
75274	Bromodichloromethane	15	USEPA, 1993g	2.1E-03	—[b]	2.1	—[a]	116
74839	Bromomethane	28	Howard et al., 1991	6.2E-03	USEPA, 1989	1.19	—[a]	15
101553	Bromophenyl phenyl ether, 4-	100	USEPA, 1993g	1.2E-04	—[b]	5	—[a]	82277
1689845	Bromoxynil	22	Howard et al., 1991			3	USEPA, 1993h	890
85687	Butyl benzyl phthalate	7	Howard et al., 1991	1.3E-06	USEPA, 1989	4.84	—[a]	57280
63252	Carbaryl/Sevin	30	Howard et al., 1991	3.1E-09	—[b]	2.3	—[c]	182
1563662	Carbofuran/Furadan	17	USEPA, 1993g	3.0E-08	—[b]	1.5	—[c]	30
75150	Carbon disulfide	11	USEPA, 1993h	3.0E-02	—[b]	2	—[a]	93
133904	Chloramben	100	USEPA, 1993g			2.17	USEPA, 1989	136
57749	Chlordane	1386	Howard et al., 1991	4.9E-05	USEPA, 1989	6.32	—[a]	1632450
108907	Chlorobenzene	150	Howard et al., 1991	4.6E-03	—[b]	2.86	—[a]	648
510156	Chlorobenzilate	35	Howard et al., 1991			4.38	—[a]	20222
75003	Chloroethane	28	Howard et al., 1991	8.8E-03	USEPA, 1989	1.4	—[c]	24
75014	Chloroethene	180	Howard et al., 1991	2.7E-02	USEPA, 1989	1.5	—[a]	30
110758	Chloroethylvinyl ether, 2-	12	USEPA, 1993g	2.5E-04	Lyman et al., 1982	1.28	Lyman et al., 1982	18
74873	Chloromethane	28	Howard et al., 1991	8.8E-03	USEPA, 1989	0.91	—[a]	8
91587	Chloronaphthalene, 2-	100	USEPA, 1993g	3.2E-04	—[b]	4.1	—[c]	10730
95578	Chlorophenol, 2-	15	SRC, 1993	5.6E-07	—[b]	2.15	—[a]	130
2921882	Chlorpyrifos/Dursban	100	USEPA, 1993g	4.0E-08	—[b]	5.26	—[a]	148204
218019	Chrysene	1000	Howard et al., 1991	1.8E-06	—[b]	5.7	—[a]	401218
108394	Cresol, m-	29	Howard et al., 1991	7.1E-07	—[b]	1.97	—[a]	86
95487	Cresol, o-	7	Howard et al., 1991	7.1E-07	—[b]	1.99	—[a]	90
106445	Cresol, p-	0.667	Howard et al., 1991	7.1E-07	—[b]	1.95	—[a]	83
1319773	Cresols	29	Howard et al., 1991	1.1E-06	Lyman et al., 1982	1.9	—[c]	74
98828	Cumene	8	Howard et al., 1991	1.2E-02	—[b]	3.58	—[a]	3307
21725462	Cyanazine	100	USEPA, 1993g			2.2	USEPA, 1993h	146
57125	Cyanide	16	USEPA, 1993g			-0.25	—[c]	1
1861321	DCPA/Dacthal	92	Howard et al., 1991	8.1E-11	—[b]	3.9	Worthing &Hance, 1991	6823
72548	DDD	5834	Howard et al., 1991	4.0E-06	USEPA, 1993h	6.1	—[a]	992156
72559	DDE	5834	Howard et al., 1991	3.5E-05	—[b]	6.76	—[a]	4419366
50293	DDT	5694	Howard et al., 1991	1.5E-05	—[b]	6.53	—[a]	2625851
1163195	Decabromodiphenyl oxide	360	Howard et al., 1991	4.5E-08	SRC, 1993	9.79	SRC, 1993	4205813396

Table A-3. (Continued)

CAS	Chemical Name	Aqueous Aerobic Biodegradation Half-Life: Days	Aqueous Aerobic Biodegradation Half-Life: Reference	Henry's Law Constant (atm-m³/mole)	Henry's Law Constant: Reference	Log Octanol-Water Partition Coefficient (log K_{ow}): Value	Log Octanol-Water Partition Coefficient: Reference	Predicted Sediment Adsorption Coefficient (K_{oc})
84742	Di-n-butyl phthalate	23	Howard et al, 1991	2.8E-14	—[b]	4.61	—[a]	34034
117840	Di-n-octyl phthalate	28	Howard et al, 1991	4.5E-13	—[b]	8.06	—[a]	83803084
333415	Diazinon/Spectracide	100	USEPA, 1993g	8.7E-08	—[b]	3.7	—[a]	4339
53703	Dibenzo(a,h)anthracene	940	Howard et al., 1991	1.2E-07	—[b]	6.69	—[a]	3771812
132649	Dibenzofuran	28	Howard et al., 1991	2.8E-04	—[b]	4.07	—[a]	10025
96128	Dibromo-3-chloropropane, 1,2-	180	Howard et al., 1991			2.34	—[a]	200
124481	Dibromochloromethane	180	Howard et al., 1991	8.1E-03	—[b]	2.17	—[a]	136
1918009	Dicamba	100	USEPA, 1993g	2.7E-08	—[b]	0.48	USEPA, 1993h	3
95501	Dichlorobenzene, 1,2-	180	Howard et al., 1991	3.9E-03	—[b]	3.43	—[a]	2355
541731	Dichlorobenzene, 1,3-	180	Howard et al., 1991	3.9E-03	—[b]	3.6	—[c]	3460
106467	Dichlorobenzene, 1,4-	180	Howard et al., 1991	3.9E-03	—[b]	3.42	—[a]	2302
25321226	Dichlorobenzenes	180	Howard et al., 1991	3.9E-03	—[b]	3.5	USEPA, 1993h	2759
91941	Dichlorobenzidine, 3,3'-	180	Howard et al., 1991	5.1E-11	—[b]	3.51	—[a]	2822
75718	Dichlorodifluoromethane	180	Howard et al., 1991	3.6E-01	—[b]	2.16	—[a]	133
75343	Dichloroethane, 1,1-	154	Howard et al., 1991	4.8E-03	—[b]	1.79	—[a]	58
107062	Dichloroethane, 1,2-	180	Howard et al., 1991	9.8E-04	USEPA, 1989	1.47	—[a]	28
75354	Dichloroethene, 1,1-	180	Howard et al., 1991	5.4E-02	—[b]	2.13	—[a]	124
156605	Dichloroethene, trans-1,2-	15	USEPA, 1993g	9.4E-03	USEPA, 1993h	2.07	—[a]	108
156592	Dichloroethylene, cis-1,2-	15	USEPA, 1993g	7.6E-03	Lyman et al., 1982	1.86	—[a]	67
75092	Dichloromethane	28	Howard et al., 1991	2.2E-03	USEPA, 1989	1.25	—[a]	17
120832	Dichlorophenol, 2,4-	8.3	Howard et al., 1991	4.8E-07	—[b]	3.08	—[a]	1066
94757	Dichlorophenoxyacetic acid, 2,4-	50	Howard et al., 1991	5.5E-08	—[b]	2.7	—[a]	451
78875	Dichloropropane, 1,2-	1289	Howard et al., 1991	3.2E-04	—[b]	1.97	—[a]	86
542756	Dichloropropene, 1,3-	28	Howard et al., 1991	1.8E-03	USEPA, 1989	2	—[a]	93
62737	Dichlorvos	3	SRC, 1993			1.5	—[c]	30
115322	Dicofol/Kelthane	100	USEPA, 1993g			6.1	USEPA, 1993h	992156
60571	Dieldrin	1080	Howard et al., 1991	1.5E-05	USEPA, 1993h	5.37	—[a]	190103
84662	Diethyl phthalate	56	Howard et al., 1991	3.6E-13	—[b]	2.5	—[a]	287
119904	Dimethoxybenzidine, 3,3'-	180	Howard et al., 1991	4.7E-11	—[b]	1.81	—[a]	60
105679	Dimethylphenol, 2,4-	7	Howard et al., 1991	7.6E-07	—[b]	2.36	—[a]	209
528290	Dinitrobenzene, 1,2-	180	Howard et al., 1991			1.6	—[c]	37
99650	Dinitrobenzene, 1,3-	180	Howard et al., 1991			1.5	—[a]	30

Table A-3. (Continued)

CAS	Chemical Name	AQUEOUS AEROBIC BIODEGRADATION HALF-LIFE		HENRY'S LAW CONSTANT		LOG OCTANOL-WATER PARTITION COEFFICIENT (log K_{ow})		PREDICTED SEDIMENT ADSORPTION COEFFICIENT (K_{oc})
		Days	Reference	(atm-m³/mole)	Reference	Value	Reference	
100254	Dinitrobenzene, 1,4-	16	USEPA, 1993g			1.5	—[c]	30
51285	Dinitrophenol, 2,4-	263	Howard et al., 1991	4.4E-07	USEPA, 1989	1.55	—[a]	33
121142	Dinitrotoluene, 2,4-	180	Howard et al., 1991	4.0E-07	—[b]	2.01	—[a]	95
606202	Dinitrotoluene, 2,6-	180	Howard et al., 1991	4.0E-07	—[b]	1.87	—[a]	69
88857	Dinoseb/DNBP	123	Howard et al., 1991	1.5E-10	—[b]	3.14	—[a]	1222
122667	Diphenylhydrazine, 1,2-	180	Howard et al., 1991	4.4E-09	—[b]	2.9	—[c]	710
298044	Disulfoton	21	Howard et al., 1991			3.98	—[a]	8177
115297	Endosulfan mixed isomers	14	Howard et al., 1991	1.1E-05	USEPA, 1993h	4.1	—[a]	10730
959988	Endosulfan, alpha-	100	USEPA, 1993g	1.1E-05	USEPA, 1993h	3.6	USEPA, 1993h	3460
33213659	Endosulfan, beta-	100	USEPA, 1993g	1.1E-05	USEPA, 1993h	3.6	USEPA, 1993h	3460
72208	Endrin	20	USEPA, 1993g	7.5E-06	USEPA, 1993h	5.06	—[a]	94245
563122	Ethion/Bladan	16	USEPA, 1993g			5.1	USEPA, 1993h	103176
141786	Ethyl acetate	7	Howard et al., 1991			0.69	—[a]	5
100414	Ethylbenzene	10	Howard et al., 1991	8.9E-03	—[b]	3.14	—[a]	1222
106934	Ethylene dibromide	180	Howard et al., 1991	2.5E-03	—[b]	1.75	—[a]	53
206440	Fluoranthene	440	Howard et al., 1991	1.6E-05	SRC, 1993	5.12	—[a]	107954
86737	Fluorene	60	Howard et al., 1991	3.5E-05	—[b]	4.21	—[a]	13763
76448	Heptachlor	65	Howard et al., 1991	2.6E-03	SRC, 1993	6.26	—[a]	1425148
1024573	Heptachlor epoxide	552	Howard et al., 1991	3.2E-05	USEPA, 1993h	5	—[a]	82277
118741	Hexachlorobenzene	2089	Howard et al., 1991	2.0E-03	—[b]	5.89	—[a]	616808
87683	Hexachlorobutadiene	180	Howard et al., 1991	8.2E-03	USEPA, 1989	4.81	—[a]	53519
77474	Hexachlorocyclopentadiene	28	Howard et al., 1991	2.7E-01	SRC, 1993	5.39	—[a]	198907
67721	Hexachloroethane	180	Howard et al., 1991	6.1E-04	—[b]	4	—[a]	8556
51235042	Hexazinone	100	USEPA, 1993g	2.0E-12	Lyman et al., 1982	0.28	Lyman et al., 1982	2
123319	Hydroquinone	7	Howard et al, 1991	3.8E-11	USEPA, 1989	0.55	—[c]	3
193395	Indeno(1,2,3-cd)pyrene	720	Howard et al., 1991	1.6E-06	USEPA, 1993h	6.65	—[a]	3445323
78591	Isophorone	28	Howard et al., 1991	5.8E-06	Lyman et al., 1982	1.7	—[a]	47
33820530	Isopropalin	105	Howard et al., 1991			5.74	Lyman et al., 1982	439238
121755	Malathion	51.5	Howard et al., 1991	8.4E-10	—[b]	2.89	—[a]	694
108316	Maleic anhydride	15	USEPA, 1993g	4.0E-11	Lyman et al., 1982	-3.13	Lyman et al., 1982	0
72435	Methoxychlor	360	Howard et al., 1991	2.8E-07	—[b]	5.08	—[a]	98610
78933	Methyl ethyl ketone	7	Howard et al., 1991	5.6E-05	USEPA, 1989	0.28	—[a]	2

Table A-3. (Continued)

CAS	Chemical Name	AQUEOUS AEROBIC BIODEGRADATION HALF-LIFE		HENRY'S LAW CONSTANT		LOG OCTANOL-WATER PARTITION COEFFICIENT (log K_{ow})		PREDICTED SEDIMENT ADSORPTION COEFFICIENT (K_{oc})
		Days	Reference	(atm-m³/mole)	Reference	Value	Reference	
108101	Methyl isobutyl ketone	7	Howard et al., 1991	1.4E-04	USEPA, 1989	1.19	—[a]	15
91576	Methylnaphthalene, 2-	100	USEPA, 1993g					
21087649	Metribuzin	15	USEPA, 1993g			1.7	USEPA, 1993h	47
7786347	Mevinphos/Phosdrin	16	USEPA, 1993g			0.21	Lyman et al., 1982	2
2385855	Mirex/Dechlorane	365	—[d]	1.6E-14	SRC, 1993	6.89	—[a]	5931301
91203	Naphthalene	20	Howard et al., 1991	3.7E-04	—[b]	3.36	—[a]	2010
91598	Naphthylamine, 2-	180	Howard et al., 1991			2.28	—[a]	174
98953	Nitrobenzene	197	Howard et al., 1991	4.5E-05	—[b]	1.84	—[a]	64
100027	Nitrophenol, 4-	7	Howard et al., 1991	5.5E-09	—[b]	1.9	USEPA, 1993h	74
924163	Nitrosodi-n-butylamine, N-	180	Howard et al., 1991	6.9E-06	—[b]	2.41	—[a]	234
621647	Nitrosodi-n-propylamine, N-	180	Howard et al., 1991	2.3E-06	USEPA, 1989	1.4	—[a]	24
62759	Nitrosodimethylamine, N-	180	Howard et al., 1991	2.6E-07	USEPA, 1989	-0.57	—[a]	0
86306	Nitrosodiphenylamine, N-	34	Howard et al., 1991	1.3E-07	—[b]	3.16	—[c]	1278
1000	PAH Compounds	940	Howard et al., 1991					
56382	Parathion ethyl	7	Verschueren, 1983	3.0E-07	—[b]	3.83	—[a]	5823
12674112	PCB-1016	590	—[e]	1.0E-04	—[b]	5.6	USEPA, 1993h	319948
11104282	PCB-1221	590	—[e]	1.0E-04	—[b]	5.6	USEPA, 1993h	319948
11141165	PCB-1232	590	—[e]	1.0E-04	—[b]	5.6	USEPA, 1993h	319948
53469219	PCB-1242	590	—[e]	1.0E-04	—[b]	5.6	USEPA, 1993h	319948
12672296	PCB-1248	590	—[e]	1.0E-04	—[b]	5.6	USEPA, 1993h	319948
11097691	PCB-1254	590	—[e]	1.0E-04	—[b]	5.6	USEPA, 1993h	319948
11096825	PCB-1260	590	—[e]	1.0E-04	—[b]	5.6	USEPA, 1993h	319948
608935	Pentachlorobenzene	345	Howard et al., 1991	2.4E-03	—[b]	5.26	—[a]	148204
82688	Pentachloronitrobenzene/Quintozene	699	Howard et al., 1991	9.7E-07	—[b]	4.64	—[a]	36425
87865	Pentachlorophenol	178	Howard et al., 1991	2.9E-07	—[b]	5.09	—[a]	100867
85018	Phenanthrene	200	Howard et al., 1991	2.6E-05	—[b]	4.55	—[a]	29712
108952	Phenol	3.5	Howard et al., 1991	3.3E-07	USEPA, 1989	1.48	—[a]	29
298022	Phorate/Famophos/Thimet	4	SRC, 1993	1.6E-06	—[b]	3.81	—[a]	5566
85449	Phthalic anhydride	7	Howard et al., 1991	1.6E-09	USEPA, 1989	-0.62	—[c]	0
1336363	Polychlorinated biphenyls	590	—[e]			5.6	USEPA, 1993h	319948
1610180	Prometon/Pramitol	365	—[d]			4.3	USEPA, 1990	16873
7287196	Prometyrn/Caparol	70	Worthing & Hance, 1991			3.43	Lyman et al., 1982	2355

Table A-3. (Continued)

CAS	Chemical Name	Aqueous Aerobic Biodegradation Half-Life: Days	Aqueous Aerobic Biodegradation Half-Life: Reference	Henry's Law Constant (atm-m³/mole)	Henry's Law Constant: Reference	Log Octanol-Water Partition Coefficient (log K_{ow}): Value	Log Octanol-Water Partition Coefficient: Reference	Predicted Sediment Adsorption Coefficient (K_{oc})
23950585	Pronamide	100	USEPA, 1993g			3.51	—[a]	2822
1918167	Propachlor	42	Worthing & Hance, 1991	8.9E-08	—[b]	1.8	Lyman et al., 1982	59
129000	Pyrene	1900	Howard et al., 1991	1.1E-05	USEPA, 1993h	5.11	—[a]	105538
91225	Quinoline	10	Howard et al., 1991	1.5E-06	—[b]	2	USEPA, 1993h	93
122349	Simazine	100	USEPA, 1993g			2.18	Lyman et al., 1982	139
100425	Styrene	28	Howard et al., 1991	8.9E-03	—[b]	2.94	—[a]	777
13071799	Terbufos/Counter	15	USEPA, 1993g	2.8E-06	—[b]	3.68	SRC, 1993	4147
886500	Terbutryn	240	SRC, 1993			3.74	Lyman et al., 1982	4750
95943	Tetrachlorobenzene, 1,2,4,5-	180	Howard et al., 1991	2.8E-03	—[b]	4.64	—[a]	36425
1746016	Tetrachlorodibenzo-p-dioxin, 2,3,7,8-	590	Howard et al., 1991	1.6E-05	SRC, 1993	6.53	—[a]	2625851
79345	Tetrachloroethane, 1,1,2,2-	180	Howard et al., 1991	5.4E-05	—[b]	2.39	—[a]	224
25322207	Tetrachloroethane, NOS	180	Howard et al., 1991			2.4		229
127184	Tetrachloroethene	360	Howard et al., 1991	1.8E-02	—[b]	2.67	—[a]	422
56235	Tetrachloromethane	360	Howard et al., 1991	3.0E-02	—[b]	2.73	—[a]	483
58902	Tetrachlorophenol, 2,3,4,6-	180	Howard et al., 1991			4.1	—[c]	10730
961115	Tetrachlorvinphos/Gardona/Stirofos	100	USEPA, 1993g	2.2E-08	—[b]	3.53	USEPA, 1989	2953
108883	Toluene	22	Howard et al., 1991	5.7E-03	—[b]	2.75	—[a]	505
8001352	Toxaphene	365	—[d]	6.0E-06	USEPA, 1989	5.5	—[a]	255141
75252	Tribromomethane	180	Howard et al., 1991	5.7E-04	—[b]	2.35	—[a]	204
120821	Trichlorobenzene, 1,2,4-	180	Howard et al., 1991	3.3E-03	—[b]	4.01	—[a]	8752
71556	Trichloroethane, 1,1,1-	273	Howard et al., 1991	1.6E-02	—[b]	2.48	—[a]	274
79005	Trichloroethane, 1,1,2-	360	Howard et al., 1991	1.2E-06	—[b]	2.05	—[a]	104
79016	Trichloroethene	360	Howard et al., 1991	1.9E-02	—[b]	2.71	—[a]	462
75694	Trichlorofluoromethane	360	Howard et al., 1991	9.7E-02	—[b]	2.53	—[a]	307
67663	Trichloromethane	180	Howard et al., 1991	4.1E-03	—[b]	1.92	—[a]	77
95954	Trichlorophenol, 2,4,5-	690	Howard et al., 1991	3.3E-03	—[b]	3.9	—[a]	6823
88062	Trichlorophenol, 2,4,6-	70	Howard et al., 1991	3.3E-03	—[b]	3.7	—[a]	4339
93765	Trichlorophenoxyacetic acid, 2,4,5-	20	Howard et al., 1991	8.7E-09	USEPA, 1993h	3.31	—[a]	1795
93721	Trichlorophenoxypropionic acid, 2,4,5-	100	USEPA, 1993g	3.5E-09	—[b]	3.41	—[a]	2251
1582098	Trifluralin/Treflan	100	USEPA, 1993g	3.9E-09	—[b]	5.4	USEPA, 1993h	203460
95636	Trimethylbenzene, 1,2,4-	28	Howard et al., 1991	6.6E-03	—[b]	3.78	USEPA, 1989	5200
118967	Trinitrotoluene	180	Howard et al., 1991	4.9E-05	SRC, 1993	2.3	—[c]	182

Table A-3. (Continued)

CAS	Chemical Name	AQUEOUS AEROBIC BIODEGRADATION HALF-LIFE		HENRY'S LAW CONSTANT		LOG OCTANOL-WATER PARTITION COEFFICIENT (log K_{ow})		PREDICTED SEDIMENT ADSORPTION COEFFICIENT (K_{oc})
		Days	Reference	(atm-m³/mole)	Reference	Value	Reference	
108054	Vinyl acetate	16	USEPA, 1993g	5.1E-04	USEPA, 1989	0.73	—[a]	5
108383	Xylene, m-	28	Howard et al., 1991	6.1E-03	—[b]	3.2	—[a]	1399
95476	Xylene, o-	28	Howard et al., 1991	6.1E-03	—[b]	3.13	—[a]	1194
106423	Xylene, p-	28	Howard et al., 1991	6.1E-03	—[b]	3.17	—[a]	1307
1330207	Xylenes	28	Howard et al., 1991	6.1E-03	—[b]	3.2	USEPA, 1993h	1399

[a]Draft log K_{ow} values recommended by Samuel W. Karickhoff and J. MacArthur Long, Environmental Research Laboratory-Athens.
[b]Predicted using the EPA Office of Pollution Prevention and Toxics (OPPT) "HENRY" structure-activity model (2/94).
[c]Literature values provided by Ruth Hull, Oak Ridge National Laboratory (2/94).
[d]No data are available; therefore, a value of 365 days was selected as a high-end biodegradation rate.
[e]Assigned the biodegradation rate for 2,3,7,8-TCDD based on structural similarity.

Appendix B

Watershed Priority Groups

Table B-1. Priority Group 1 Watersheds (Load Score greater than 80)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
01090004 (APC)	**Narragansett** Region(s): 1 State(s): MA, RI	Divalent Metal Sewerage Systems	PCS
02030101	**Lower Hudson** Region(s): 2, 1 State(s): NY, CT, NJ	Divalent Metal Sewerage Systems	PCS
02030103 (APC)	**Hackensack-Passaic** Region(s): 2 State(s): NY, NJ	Divalent Metal Sewerage Systems	PCS
02030104 (APC)	**Sandy Hook-Staten Island** Region(s): 2 State(s): NY, NJ	Divalent Metal Sewerage Systems	PCS
02030201	**Northern Long Island** Region(s): 2 State(s): NY	Divalent Metal Sewerage Systems	PCS
02030202 (APC)	**Southern Long Island** Region(s): 2 State(s): NY	Divalent Metal Sewerage Systems	PCS
02040105 (APC)	**Middle Delaware-Musconetcong** Region(s): 3, 2 State(s): PA, NJ	Pesticide Sewerage Systems	PCS
02040202 (APC)	**Lower Delaware** Region(s): 3, 2 State(s): PA, NJ	Divalent Metal Sewerage Systems	PCS
02040203 (APC)	**Schuylkill** Region(s): 3 State(s): PA	Divalent Metal Sewerage Systems	PCS
02040204	**Delaware Bay** Region(s): 2 State(s): NJ	Pesticide Sewerage Systems	PCS
04090004 (APC)	**Detroit** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
04120104 (APC)	**Niagara** Region(s): 2 State(s): NY	Divalent Metal Sewerage Systems	PCS
04140201	**Seneca** Region(s): 2 State(s): NY	Divalent Metal Sewerage Systems	PCS
05030101 (APC)	**Upper Ohio** Region(s): 3, 5 State(s): WV, PA, OH	Divalent Metal Primary Metal Industries	PCS
08070100	**Lower Mississippi-Baton Rouge** Region(s): 6 State(s): LA	Divalent Metal Industrial Organic Chemicals	PCS
12040104 (APC)	**Buffalo-San Jacinto** Region(s): 6 State(s): TX	PAH Industrial Organic Chemicals	PCS
18050004 (APC)	**San Francisco Bay** Region(s): 9 State(s): CA	Divalent Metal Sewerage Systems	PCS

Table B-2. Priority Group 2 Watersheds (Load Score range: 61-80)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
02030105 (APC)	**Raritan** Region(s): 2 State(s): NJ	PAH Sewerage Systems	PCS
03160204	**Mobile - Tensaw** Region(s): 4 State(s): AL	Divalent Metal Sewerage Systems	PCS
04040001 (APC)	**Little Calumet-Galien** Region(s): 5 State(s): IL, IN, MI	Divalent Metal Sewerage Systems	PCS
04110001 (APC)	**Black-Rocky** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
04110003 (APC)	**Ashtabula-Chagrin** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
05030103	**Mahoning** Region(s): 5, 3 State(s): OH, PA	Divalent Metal Sewerage Systems	PCS
05040001 (APC)	**Tuscarawas** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
05060001	**Upper Scioto** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
05080002	**Lower Great Miami** Region(s): 5 State(s): OH, IN	Divalent Metal Sewerage Systems	PCS
05090203	**Middle Ohio-Laughery** Region(s): 4, 5 State(s): KY, IN, OH	Divalent Metal Sewerage Systems	PCS
05140101	**Silver-Little Kentucky** Region(s): 4, 5 State(s): KY, IN	Divalent Metal Public Utilities	PCS
05140201	**Lower Ohio-Little Pigeon** Region(s): 5, 4 State(s): IN, KY	PAH Plastic Materials and Synthetics	PCS
07120004 (APC)	**Des Plaines** Region(s): 5 State(s): WI, IL	Divalent Metal Sewerage Systems	PCS
16020204	**Jordan** Region(s): 8 State(s): UT	Divalent Metal Sewerage Systems	PCS
18050001	**Suisun Bay** Region(s): 9 State(s): CA	Divalent Metal Sewerage Systems	PCS
18050002	**San Pablo Bay** Region(s): 9 State(s): CA	Divalent Metal Sewerage Systems	PCS
18070104 (APC)	**Santa Monica Bay** Region(s): 9 State(s): CA	Other Sewerage Systems Other Petroleum Refining	PCS TRI

Table B-2. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
18070203	**Santa Ana** Region(s): 9 State(s): CA	Divalent Metal Sewerage Systems	PCS
21010005	**Eastern Puerto Rico** Region(s): 2 State(s): PR	Divalent Metal Sewerage Systems	PCS

Table B-3. Priority Group 3 Watersheds (Load Score range: 41-60)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
02020003	**Hudson-Hoosic** Region(s): 1, 2 State(s): VT, NY, MA	Divalent Metal Sewerage Systems	PCS
02020004	**Mohawk** Region(s): 2 State(s): NY	Divalent Metal Sewerage Systems	PCS
02020006	**Middle Hudson** Region(s): 2, 1 State(s): NY, MA	Divalent Metal Sewerage Systems	PCS
02020008	**Hudson-Wappinger** Region(s): 2 State(s): NY	Divalent Metal Sewerage Systems	PCS
02040201	**Crosswicks-Neshaminy** Region(s): 3, 2 State(s): PA, NJ	PCB Sewerage Systems	PCS
02040206	**Cohansey-Maurice** Region(s): 3, 2 State(s): DE, NJ	PCB Other Trade and Services	PCS
02060003 (APC)	**Gunpowder-Patapsco** Region(s): 3 State(s): MD, PA	Divalent Metal Industrial Organic Chemicals	PCS
02080206	**Lower James** Region(s): 3 State(s): VA	PAH Plastic Materials and Synthetics	PCS
03050103	**Lower Catawba** Region(s): 4 State(s): NC, SC	PAH Industrial Organic Chemicals	PCS
03050105	**Upper Broad** Region(s): 4 State(s): NC, SC	PAH Plastic Materials and Synthetics	PCS
03160111	**Locust** Region(s): 4 State(s): AL	PAH Primary Metal Industries	PCS
04030204 (APC)	**Lower Fox** Region(s): 5 State(s): WI	Divalent Metal Sewerage Systems	PCS
04040002 (APC)	**Pike-Root** Region(s): 5 State(s): WI, IL	Divalent Metal Sewerage Systems	PCS
04050001 (APC)	**St. Joseph** Region(s): 5 State(s): IN, MI	Divalent Metal Sewerage Systems	PCS
04110002	**Cuyahoga** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
05090101	**Raccoon-Symmes** Region(s): 3, 5 State(s): WV, OH	PAH Industrial Organic Chemicals	PCS
05120201	**Upper White** Region(s): 5 State(s): IN	Divalent Metal Sewerage Systems	PCS
06040006	**Lower Tennessee** Region(s): 4 State(s): KY, TN	PAH Industrial Inorganic Chemicals	PCS

Table B-3. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
07010206 (APC)	**Twin Cities** Region(s): 5 State(s): WI, MN	Divalent Metal Sewerage Systems	PCS
07110009	**Peruque-Piasa** Region(s): 7, 5 State(s): MO, IL	Divalent Metal Primary Metal Industries	PCS
07120003 (APC)	**Chicago** Region(s): 5 State(s): IN, IL	Other Petroleum Refining	TRI
07140101 (APC)	**Cahokia-Joachim** Region(s): 7, 5 State(s): MO, IL	Divalent Metal Sewerage Systems	PCS
		Other Industrial Organic Chemicals	TRI
08080206 (APC)	**Lower Calcasieu** Region(s): 6 State(s): LA	Divalent Metal Industrial Organic Chemicals	PCS
08090100 (APC)	**Lower Mississippi-New Orleans** Region(s): 6 State(s): LA	PAH Industrial Organic Chemicals	PCS
15060106	**Lower Salt** Region(s): 9 State(s): AZ	Divalent Metal Sewerage Systems	PCS
18050006	**San Francisco Coastal South** Region(s): 9 State(s): CA	Divalent Metal Sewerage Systems	PCS
18070105 (APC)	**Los Angeles** Region(s): 9 State(s): CA	Divalent Metal Sewerage Systems	PCS
18070106	**San Gabriel** Region(s): 9 State(s): CA	Divalent Metal Sewerage Systems	PCS
21010004	**Southern Puerto Rico** Region(s): 2 State(s): PR	Divalent Metal Public Utilities	PCS

Table B-4. Priority Group 4 Watersheds (Load Score range: 21-40)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
01060001	**Presumpscot** Region(s): 1 State(s): ME	Divalent Metal Sewerage Systems	PCS
01070004	**Nashua** Region(s): 1 State(s): MA, NH	Divalent Metal Sewerage Systems	PCS
01090001 (APC)	**Charles** Region(s): 1 State(s): MA	Divalent Metal Public Utilities	PCS
01090003	**Blackstone** Region(s): 1 State(s): RI, MA	Divalent Metal Sewerage Systems	PCS
01100003	**Thames** Region(s): 1 State(s): CT	Divalent Metal Public Utilities	PCS
01100004	**Quinnipiac** Region(s): 1 State(s): CT	Divalent Metal Metal Products and Finishing	PCS
01100005	**Housatonic** Region(s): 1, 2 State(s): MA, CT, NY	Divalent Metal Metal Products and Finishing	PCS
02020007	**Rondout** Region(s): 2 State(s): NJ, NY	Divalent Metal Sewerage Systems	PCS
02030102	**Bronx** Region(s): 2 State(s): NY	Divalent Metal Sewerage Systems	PCS
02040106	**Lehigh** Region(s): 3 State(s): PA	Divalent Metal Primary Metal Industries	PCS
02050103	**Owego-Wappasening** Region(s): 2, 3 State(s): NY, PA	Divalent Metal Sewerage Systems	PCS
02050105	**Chemung** Region(s): 2, 3 State(s): NY, PA	Divalent Metal Sewerage Systems	PCS
02050107	**Upper Susquehanna-Lackawanna** Region(s): 3 State(s): PA	Divalent Metal Sewerage Systems	PCS
02050306	**Lower Susquehanna** Region(s): 3 State(s): MD, PA	Divalent Metal Metal Products and Finishing	PCS
03030002	**Haw** Region(s): 4 State(s): NC	Other Textile Products	TRI
03050107	**Tyger** Region(s): 4 State(s): SC	Divalent Metal Sewerage Systems	PCS
03070103	**Upper Ocmulgee** Region(s): 4 State(s): GA	Divalent Metal Sewerage Systems	PCS
03080103 (APC)	**Lower St. Johns** Region(s): 4 State(s): FL	Divalent Metal Public Utilities	PCS

Table B-4. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
03130001	**Upper Chattahoochee** Region(s): 4 State(s): GA	Pesticide Sewerage Systems	PCS
03130002 (APC)	**Middle Chattahoochee-Lake Harding** Region(s): 4 State(s): GA, AL	Divalent Metal Sewerage Systems	PCS
03150106	**Middle Coosa** Region(s): 4 State(s): AL	Divalent Metal Sewerage Systems	PCS
03150201	**Upper Alabama** Region(s): 4 State(s): AL	Divalent Metal Sewerage Systems	PCS
03160205 (APC)	**Mobile Bay** Region(s): 4 State(s): AL	Divalent Metal Sewerage Systems	PCS
04030101	**Manitowoc-Sheboygan** Region(s): 5 State(s): WI	Divalent Metal Sewerage Systems	PCS
04050004	**Upper Grand** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
04050006	**Lower Grand** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
04100009	**Lower Maumee** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
04100011	**Sandusky** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
04130001 (APC)	**Oak Orchard-Twelvemile** Region(s): 2 State(s): NY	Divalent Metal Sewerage Systems	PCS
04140101	**Irondequoit-Ninemile** Region(s): 2 State(s): NY	Divalent Metal Metal Products and Finishing Other Metal Products and Finishing	PCS TRI
04140202	**Oneida** Region(s): 2 State(s): NY	Divalent Metal Sewerage Systems	PCS
04150301 (APC)	**Upper St. Lawrence** Region(s): 2 State(s): NY	Divalent Metal Sewerage Systems	PCS
05020005	**Lower Monongahela** Region(s): 3 State(s): PA, WV	Divalent Metal Primary Metal Industries	PCS
05030106	**Upper Ohio-Wheeling** Region(s): 3, 5 State(s): WV, OH, PA	Divalent Metal Public Utilities	PCS
05030201	**Little Muskingum-Middle Island** Region(s): 3, 5 State(s): WV, OH	Divalent Metal Plastic Materials and Synthetics	PCS

Table B-4. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
05030202	**Upper Ohio-Shade** Region(s): 3, 5 State(s): WV, OH	Divalent Metal Public Utilities	PCS
05030204	**Hocking** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
05040002	**Mohican** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
05040004	**Muskingum** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
05060002	**Lower Scioto** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
05080001	**Upper Great Miami** Region(s): 5 State(s): OH, IN	Divalent Metal Sewerage Systems	PCS
05080003	**Whitewater** Region(s): 5 State(s): IN, OH	Divalent Metal Sewerage Systems	PCS
05090103	**Little Scioto-Tygarts** Region(s): 3, 4, 5 State(s): WV, KY, OH	Divalent Metal Sewerage Systems	PCS
05090202	**Little Miami** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
05100205	**Lower Kentucky** Region(s): 4 State(s): KY	Divalent Metal Sewerage Systems	PCS
05110003	**Middle Green** Region(s): 4 State(s): KY	Divalent Metal Public Utilities	PCS
05120101	**Upper Wabash** Region(s): 5 State(s): IN, OH	Divalent Metal Sewerage Systems	PCS
05120108	**Middle Wabash-Little Vermilion** Region(s): 5 State(s): IN, IL	Divalent Metal Pharmaceuticals	PCS
05120206	**Upper East Fork White** Region(s): 5 State(s): IN	Divalent Metal Sewerage Systems	PCS
05130202	**Lower Cumberland-Sycamore** Region(s): 4 State(s): TN	Divalent Metal Sewerage Systems	PCS
05140102	**Salt** Region(s): 4 State(s): KY	Divalent Metal Metal Products and Finishing	PCS
05140202	**Highland-Pigeon** Region(s): 4, 5 State(s): KY, IN	Divalent Metal Sewerage Systems	PCS
05140206	**Lower Ohio** Region(s): 4, 5 State(s): KY, IL	Divalent Metal Public Utilities	PCS

Table B-4. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
06010102	**South Fork Holston** Region(s): 4, 3 State(s): TN, VA	Divalent Metal Sewerage Systems	PCS
06010104 (APC)	**Holston** Region(s): 4 State(s): TN	Divalent Metal Metal Mining	PCS
06010201 (APC)	**Watts Bar Lake** Region(s): 4 State(s): TN	Divalent Metal Sewerage Systems	PCS
06010207 (APC)	**Lower Clinch** Region(s): 4 State(s): TN	Divalent Metal National Security	PCS
06020001 (APC)	**Middle Tennessee-Chickamauga** Region(s): 4 State(s): GA, TN, AL	Divalent Metal Sewerage Systems	PCS
06030002	**Wheeler Lake** Region(s): 4 State(s): AL, TN	Divalent Metal Industrial Organic Chemicals	PCS
06030005 (APC)	**Pickwick Lake** Region(s): 4 State(s): TN, AL, MS	Divalent Metal Metal Products and Finishing	PCS
07020012	**Lower Minnesota** Region(s): 5 State(s): MN	Divalent Metal Sewerage Systems	PCS
07080101 (APC)	**Copperas-Duck** Region(s): 5, 7 State(s): IL, IA	Divalent Metal Sewerage Systems	PCS
07090001	**Upper Rock** Region(s): 5 State(s): IL, WI	Divalent Metal Sewerage Systems	PCS
07090005	**Lower Rock** Region(s): 5 State(s): IL, WI	Divalent Metal Sewerage Systems	PCS
07120001	**Kankakee** Region(s): 5 State(s): IN, IL, MI	Divalent Metal Public Utilities	PCS
07120006 (APC)	**Upper Fox** Region(s): 5 State(s): WI, IL	Divalent Metal Sewerage Systems	PCS
07130001 (APC)	**Lower Illinois-Senachwine Lake** Region(s): 5 State(s): IL	Divalent Metal Sewerage Systems	PCS
08070201	**Bayou Sara-Thompson** Region(s): 6, 4 State(s): LA, MS	Divalent Metal Industrial Organic Chemicals	PCS
10190003	**Middle South Platte-Cherry Creek** Region(s): 8 State(s): CO	Divalent Metal Sewerage Systems	PCS
10230006	**Big Papillion-Mosquito** Region(s): 7 State(s): IA, NE	Divalent Metal Sewerage Systems	PCS
12020003	**Lower Neches** Region(s): 6 State(s): TX	Divalent Metal Industrial Organic Chemicals	PCS

Table B-4. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
12040204	**West Galveston Bay** Region(s): 6 State(s): TX	Divalent Metal Sewerage Systems	PCS
		Other Other Chemical Products	TRI
12070104	**Lower Brazos** Region(s): 6 State(s): TX	Other Industrial Inorganic Chemicals	TRI
12110202	**South Corpus Christi Bay** Region(s): 6 State(s): TX	Divalent Metal Primary Metal Industries	PCS
15050301	**Upper Santa Cruz** Region(s): 9 State(s): AZ	Divalent Metal Sewerage Systems	PCS
16020201	**Utah Lake** Region(s): 8 State(s): UT	Divalent Metal Sewerage Systems	PCS
16020203	**Provo** Region(s): 8 State(s): UT	Divalent Metal Sewerage Systems	PCS
17080001	**Lower Columbia-Sandy** Region(s): 10 State(s): WA, OR	Divalent Metal Sewerage Systems	PCS
17090003	**Upper Willamette** Region(s): 10 State(s): OR	Divalent Metal Sewerage Systems	PCS
17090007	**Middle Willamette** Region(s): 10 State(s): OR	Divalent Metal Sewerage Systems	PCS
17090012 (APC)	**Lower Willamette** Region(s): 10 State(s): OR	Divalent Metal Sewerage Systems	PCS
17110019 (APC)	**Puget Sound** Region(s): 10 State(s): WA	Divalent Metal Sewerage Systems	PCS
18050003 (APC)	**Coyote** Region(s): 9 State(s): CA	Divalent Metal Sewerage Systems	PCS
18070103	**Calleguas** Region(s): 9 State(s): CA	Divalent Metal Sewerage Systems	PCS
18070303	**San Luis Rey-Escondido** Region(s): 9 State(s): CA	Divalent Metal Sewerage Systems	PCS
19050002	**Cook Inlet** Region(s): 10 State(s): AK	Divalent Metal Sewerage Systems	PCS
20060000	**Oahu** Region(s): 9 State(s): HI	Other Sewerage Systems	PCS

Table B-5. Priority Group 5 Watersheds (Load Score range: 1-20)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
01020001	**West Branch Penobscot** Region(s): 1 State(s): ME	Divalent Metal Paper and Allied Products	PCS
01020005	**Lower Penobscot** Region(s): 1 State(s): ME	Divalent Metal Paper and Allied Products	PCS
		Mercury Industrial Inorganic Chemicals	TRI
01030003	**Lower Kennebec** Region(s): 1 State(s): ME	Metal Sewerage Systems	PCS
		Other Paper and Allied Products	TRI
01040002	**Lower Androscoggin** Region(s): 1 State(s): ME, NH	Divalent Metal Textile Products	PCS
		Other Paper and Allied Products	TRI
01050002	**Maine Coastal** Region(s): 1 State(s): ME	Metal Sewerage Systems	PCS
01050003	**St. George-Sheepscot** Region(s): 1 State(s): ME	Divalent Metal Metal Products and Finishing	TRI
01060002	**Saco** Region(s): 1 State(s): ME, NH	Metal Sewerage Systems	PCS
01060003	**Piscataqua-Salmon Falls** Region(s): 1 State(s): MA, ME, NH	Divalent Metal National Security	PCS
01070001	**Pemigewasset** Region(s): 1 State(s): NH	Divalent Metal Metal Products and Finishing	TRI
01070002	**Merrimack** Region(s): 1 State(s): NH, MA	Divalent Metal Other Chemical Products	PCS
		Other Textile Products	TRI
01070005	**Concord** Region(s): 1 State(s): MA	Divalent Metal Sewerage Systems	PCS
01080104	**Upper Connecticut-Mascoma** Region(s): 1 State(s): NH, VT	Metal Sewerage Systems	PCS
		Other Other Chemical Products	TRI
01080107	**West** Region(s): 1 State(s): VT	Divalent Metal Metal Products and Finishing	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
01080201	**Middle Connecticut** Region(s): 1 State(s): MA, NH, VT	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
01080202	**Miller** Region(s): 1 State(s): MA, NH	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
01080203	**Deerfield** Region(s): 1 State(s): MA, VT	Divalent Metal Sewerage Systems	PCS
01080204	**Chicopee** Region(s): 1 State(s): MA	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Primary Metal Industries	TRI
01080205	**Lower Connecticut** Region(s): 1 State(s): MA, CT	Divalent Metal Public Utilities	PCS
		Divalent Metal Metal Products and Finishing	TRI
01080206	**Westfield** Region(s): 1 State(s): MA, CT	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Furniture and Fixtures	TRI
01080207	**Farmington** Region(s): 1 State(s): CT, MA	Divalent Metal Sewerage Systems	PCS
01090002 (APC)	**Cape Cod** Region(s): 1 State(s): MA, RI	PCB Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
01090005	**Pawcatuck-Wood** Region(s): 1 State(s): RI, CT	Metal Sewerage Systems	PCS
01100001	**Quinebaug** Region(s): 1 State(s): CT, MA, RI	Divalent Metal Metal Products and Finishing	PCS
		Metal Metal Products and Finishing	TRI
01100002	**Shetucket** Region(s): 1 State(s): CT, MA	Divalent Metal Paper and Allied Products	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
01100006	**Saugatuck** Region(s): 1, 2 State(s): CT, NY	Metal Primary Metal Industries	PCS
		Divalent Metal Metal Products and Finishing	TRI
02010001	**Lake George** Region(s): 1, 2 State(s): VT, NY	Divalent Metal Other Trade and Services	PCS
02010003	**Winooski** Region(s): 1 State(s): VT	Divalent Metal Metal Products and Finishing	PCS
02010006	**Great Chazy-Saranac** Region(s): 2 State(s): NY	Divalent Metal Sewerage Systems	PCS
02040103	**Lackawaxen** Region(s): 3 State(s): PA	Divalent Metal Sewerage Systems	PCS
02040104	**Middle Delaware-Mongaup-Brodhead** Region(s): 2, 3 State(s): NJ, PA, NY	Divalent Metal Sewerage Systems	PCS
02040205	**Brandywine-Christina** Region(s): 2, 3 State(s): NJ, PA, DE, MD	Divalent Metal Primary Metal Industries	PCS
		Other Petroleum Refining	TRI
02040207	**Broadkill-Smyrna** Region(s): 3 State(s): DE	Divalent Metal Sewerage Systems	PCS
		Other Plastic Materials and Synthetics	TRI
02040301 (APC)	**Mullica-Toms** Region(s): 2 State(s): NJ	Divalent Metal Sewerage Systems	PCS
02040302	**Great Egg Harbor** Region(s): 2 State(s): NJ	Metal Sewerage Systems	PCS
02050101	**Upper Susquehanna** Region(s): 2, 3 State(s): NY, PA	Divalent Metal Metal Products and Finishing	PCS
		Divalent Metal Metal Products and Finishing	TRI
02050102	**Chenango** Region(s): 2 State(s): NY	Divalent Metal Nonclassifiable	PCS
		Divalent Metal Metal Products and Finishing	TRI
02050106	**Upper Susquehanna-Tunkhannock** Region(s): 3 State(s): PA	Divalent Metal Primary Metal Industries	PCS
		Metal Primary Metal Industries	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
02050202	**Sinnemahoning** Region(s): 3 State(s): PA	Divalent Metal / Primary Metal Industries	TRI
02050204	**Bald Eagle** Region(s): 3 State(s): PA	Divalent Metal / Paper and Allied Products	PCS
		Divalent Metal / Primary Metal Industries	TRI
02050205	**Pine** Region(s): 3 State(s): PA	Other / Sewerage Systems	PCS
02050206	**Lower West Branch Susquehanna** Region(s): 3 State(s): PA	Divalent Metal / Public Utilities	PCS
02050301	**Lower Susquehanna-Penns** Region(s): 3 State(s): PA	Divalent Metal / Sewerage Systems	PCS
02050302	**Upper Juniata** Region(s): 3 State(s): PA	Divalent Metal / Sewerage Systems	PCS
		Divalent Metal / Metal Products and Finishing	TRI
02050304	**Lower Juniata** Region(s): 3 State(s): PA	Divalent Metal / Primary Metal Industries	PCS
		Other / Rubber and Plastics Products	TRI
02050305	**Lower Susquehanna-Swatara** Region(s): 3 State(s): PA	Divalent Metal / Sewerage Systems	PCS
		Divalent Metal / Metal Products and Finishing	TRI
02060002	**Chester-Sassafras** Region(s): 3 State(s): PA, DE, MD	Mercury / Sewerage Systems	PCS
		Divalent Metal / Metal Products and Finishing	TRI
02060004	**Severn** Region(s): 3 State(s): MD	Divalent Metal / Sewerage Systems	PCS
02060006	**Patuxent** Region(s): 3 State(s): MD	Divalent Metal / Sewerage Systems	PCS
02060007	**Blackwater-Wicomico** Region(s): 3 State(s): MD, DE	Other / Metal Products and Finishing	TRI
02060010	**Chincoteague** Region(s): 3 State(s): MD, VA, DE	Divalent Metal / Public Utilities	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
02070002	**North Branch Potomac** Region(s): 3 State(s): PA, WV, MD	Metal Sewerage Systems	PCS
		Other Paper and Allied Products	TRI
02070004 (APC)	**Conococheague-Opequon** Region(s): 3 State(s): WV, VA, MD, PA	Divalent Metal Sewerage Systems	PCS
02070005	**South Fork Shenandoah** Region(s): 3 State(s): VA	Mercury Plastic Materials and Synthetics	PCS
		Other Pharmaceuticals	TRI
02070006	**North Fork Shenandoah** Region(s): 3 State(s): VA, WV	Metal Textile Products	PCS
		Divalent Metal Primary Metal Industries	TRI
02070008	**Middle Potomac-Catoctin** Region(s): 3 State(s): MD, VA, DC	Divalent Metal Primary Metal Industries	PCS
		Divalent Metal Metal Products and Finishing	TRI
02070009	**Monocacy** Region(s): 3 State(s): MD, PA	Metal Sewerage Systems	PCS
02070010	**Middle Potomac-Anacostia-Occoquan** Region(s): 3 State(s): DC, MD, VA	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
02070011	**Lower Potomac** Region(s): 3 State(s): MD, VA	Divalent Metal Public Utilities	PCS
02080104	**Lower Rappahannock** Region(s): 3 State(s): VA	Divalent Metal Sewerage Systems	PCS
02080106	**Pamunkey** Region(s): 3 State(s): VA	Other Paper and Allied Products	TRI
02080107	**York** Region(s): 3 State(s): VA	Mercury Public Utilities	PCS
02080201	**Upper James** Region(s): 3 State(s): VA, WV	PCB Rubber and Plastics Products	PCS
		Other Paper and Allied Products	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
02080202	**Maury** Region(s): 3 State(s): VA	Mercury Sewerage Systems	PCS
		Metal Lumber and Wood Products	TRI
02080203	**Middle James-Buffalo** Region(s): 3 State(s): VA	Metal Metal Products and Finishing	PCS
		Divalent Metal Metal Products and Finishing	TRI
02080204	**Rivanna** Region(s): 3 State(s): VA	Metal Metal Products and Finishing	PCS
02080205	**Middle James-Willis** Region(s): 3 State(s): VA	Other Other Chemical Products	TRI
02080207	**Appomattox** Region(s): 3 State(s): VA	Other Pharmaceuticals	TRI
02080208	**Hampton Roads** Region(s): 3 State(s): VA	Divalent Metal National Security	PCS
03010101	**Upper Roanoke** Region(s): 3 State(s): VA	Metal Textile Products	PCS
		Other Furniture and Fixtures	TRI
03010102	**Middle Roanoke** Region(s): 4, 3 State(s): NC, VA	Metal Textile Products	PCS
		Other Textile Products	TRI
03010103	**Upper Dan** Region(s): 4, 3 State(s): NC, VA	Other Stone, Clay, and Glass Products	TRI
03010104	**Lower Dan** Region(s): 3, 4 State(s): VA, NC	Metal Textile Products	TRI
03010107	**Lower Roanoke** Region(s): 4 State(s): NC	Other Textile Products	TRI
03010201	**Nottoway** Region(s): 3, 4 State(s): VA, NC	Other Industrial Organic Chemicals	TRI
03020101	**Upper Tar** Region(s): 4 State(s): NC	Divalent Metal Metal Products and Finishing	TRI
03020201	**Upper Neuse** Region(s): 4 State(s): NC	Divalent Metal Metal Products and Finishing	TRI
03030003	**Deep** Region(s): 4 State(s): NC	Other Other Chemical Products	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
03030004	**Upper Cape Fear** Region(s): 4 State(s): NC	Divalent Metal Metal Products and Finishing	TRI
03030005	**Lower Cape Fear** Region(s): 4 State(s): NC	Mercury Industrial Inorganic Chemicals	TRI
03030006	**Black** Region(s): 4 State(s): NC	Divalent Metal Metal Products and Finishing	TRI
03030007	**Northeast Cape Fear** Region(s): 4 State(s): NC	Divalent Metal Industrial Inorganic Chemicals	TRI
03040101	**Upper Yadkin** Region(s): 3, 4 State(s): VA, NC	Divalent Metal Metal Products and Finishing	TRI
03040103	**Lower Yadkin** Region(s): 4 State(s): NC	Other Other Chemical Products	TRI
03040105	**Rocky** Region(s): 4 State(s): NC, SC	Other Textile Products	TRI
03040201 (APC)	**Lower Pee Dee** Region(s): 4 State(s): NC, SC	Divalent Metal Sewerage Systems	PCS
		Other Textile Products	TRI
03040202	**Lynches** Region(s): 4 State(s): SC, NC	Divalent Metal Textile Products	PCS
		Divalent Metal Metal Products and Finishing	TRI
03040204	**Little Pee Dee** Region(s): 4 State(s): NC, SC	Divalent Metal Sewerage Systems	PCS
03040205	**Black** Region(s): 4 State(s): SC	Divalent Metal Sewerage Systems	PCS
		Other Textile Products	TRI
03040206	**Waccamaw** Region(s): 4 State(s): NC, SC	Divalent Metal Sewerage Systems	PCS
03040207	**Carolina Coastal-Sampit** Region(s): 4 State(s): NC, SC	PAH Industrial Organic Chemicals	PCS
		Divalent Metal Primary Metal Industries	TRI
03050101	**Upper Catawba** Region(s): 4 State(s): SC, NC	Other Textile Products	TRI
03050102	**South Fork Catawba** Region(s): 4 State(s): NC	Other Textile Products	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
03050104	**Wateree** Region(s): 4 State(s): SC	Divalent Metal Plastic Materials and Synthetics	PCS
		Divalent Metal Industrial Organic Chemicals	TRI
03050106	**Lower Broad** Region(s): 4 State(s): SC	Divalent Metal Sewerage Systems	PCS
		Metal Lumber and Wood Products	TRI
03050108	**Enoree** Region(s): 4 State(s): SC	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
03050109	**Saluda** Region(s): 4 State(s): SC	Divalent Metal Sewerage Systems	PCS
		Other Other Chemical Products	TRI
03050110	**Congaree** Region(s): 4 State(s): SC	Divalent Metal Sewerage Systems	PCS
		Other Plastic Materials and Synthetics	TRI
03050201	**Cooper** Region(s): 4 State(s): SC	Divalent Metal Industrial Organic Chemicals	PCS
		Metal Primary Metal Industries	TRI
03050202	**South Carolina Coastal** Region(s): 4 State(s): SC	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Textile Products	TRI
03050203	**North Fork Edisto** Region(s): 4 State(s): SC	Divalent Metal Sewerage Systems	PCS
		Other Industrial Organic Chemicals	TRI
03050205	**Edisto** Region(s): 4 State(s): SC	Metal Public Utilities	PCS
03050206	**Four Hole Swamp** Region(s): 4 State(s): SC	Divalent Metal Metal Products and Finishing	TRI
03050207	**Salkehatchie** Region(s): 4 State(s): SC	Divalent Metal Sewerage Systems	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
03050208	**Broad-St. Helena** Region(s): 4 State(s): SC	Divalent Metal Industrial Organic Chemicals	PCS
03060101 (APC)	**Seneca** Region(s): 4 State(s): NC, SC	Divalent Metal Sewerage Systems	PCS
		Other Other Chemical Products	TRI
03060102	**Tugaloo** Region(s): 4 State(s): SC, GA, NC	Divalent Metal Textile Products	PCS
03060103	**Upper Savannah** Region(s): 4 State(s): GA, SC	Divalent Metal Sewerage Systems	PCS
		Other Textile Products	TRI
03060105	**Little** Region(s): 4 State(s): GA	Divalent Metal Sewerage Systems	PCS
03060106 (APC)	**Middle Savannah** Region(s): 4 State(s): GA, SC	Divalent Metal Sewerage Systems	PCS
		Other Textile Products	TRI
03060107	**Stevens** Region(s): 4 State(s): SC	Divalent Metal Sewerage Systems	PCS
03060108	**Brier** Region(s): 4 State(s): GA	Divalent Metal Sewerage Systems	PCS
03060109	**Lower Savannah** Region(s): 4 State(s): SC, GA	Divalent Metal Sewerage Systems	PCS
		Other Paper and Allied Products	TRI
03060201	**Upper Ogeechee** Region(s): 4 State(s): GA	Metal Textile Products	PCS
03060202	**Lower Ogeechee** Region(s): 4 State(s): GA	Divalent Metal Textile Products	PCS
		Divalent Metal Primary Metal Industries	TRI
03060203	**Canoochee** Region(s): 4 State(s): GA	Divalent Metal Sewerage Systems	PCS
03060204	**Ogeechee Coastal** Region(s): 4 State(s): SC, GA	Divalent Metal Sewerage Systems	PCS
03070101	**Upper Oconee** Region(s): 4 State(s): GA	Divalent Metal Sewerage Systems	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
03070102	**Lower Oconee** Region(s): 4 State(s): GA	Divalent Metal Sewerage Systems	PCS
		PAH Paper and Allied Products	TRI
03070104	**Lower Ocmulgee** Region(s): 4 State(s): GA	Divalent Metal Sewerage Systems	PCS
03070105	**Little Ocmulgee** Region(s): 4 State(s): GA	Divalent Metal Primary Metal Industries	TRI
03070106	**Altamaha** Region(s): 4 State(s): GA	Divalent Metal Sewerage Systems	PCS
		Other Paper and Allied Products	TRI
03070201	**Satilla** Region(s): 4 State(s): GA	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
03070203	**Cumberland-St. Simons** Region(s): 4 State(s): FL, GA	Pesticide Industrial Organic Chemicals	PCS
		Other Industrial Organic Chemicals	TRI
03070204	**St. Marys** Region(s): 4 State(s): GA, FL	Metal Paper and Allied Products	PCS
		Other Paper and Allied Products	TRI
03080101	**Upper St. Johns** Region(s): 4 State(s): FL	Divalent Metal Metal Products and Finishing	TRI
03080102	**Oklawaha** Region(s): 4 State(s): FL	Mercury Sewerage Systems	PCS
03080203	**Vero Beach** Region(s): 4 State(s): FL	Mercury Public Utilities	PCS
03090202	**Everglades** Region(s): 4 State(s): FL	Divalent Metal Public Utilities	PCS
		Other Textile Products	TRI
03090204	**Big Cypress Swamp** Region(s): 4 State(s): FL	Metal Sewerage Systems	PCS
03100202	**Manatee** Region(s): 4 State(s): FL	Divalent Metal Public Utilities	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
03100206	**Tampa Bay** Region(s): 4 State(s): FL	Divalent Metal Other Trade and Services	PCS
03100208	**Withlacoochee** Region(s): 4 State(s): FL	Divalent Metal Primary Metal Industries	TRI
03110201	**Upper Suwannee** Region(s): 4 State(s): FL, GA	Divalent Metal Public Utilities	PCS
03110202	**Alapaha** Region(s): 4 State(s): GA, FL	Divalent Metal Sewerage Systems	PCS
		Other Plastic Materials and Synthetics	TRI
03110203	**Withlacoochee** Region(s): 4 State(s): FL, GA	Divalent Metal Sewerage Systems	PCS
03120001	**Apalachee Bay-St. Marks** Region(s): 4 State(s): FL, GA	Divalent Metal Public Utilities	PCS
03120002	**Upper Ochlockonee** Region(s): 4 State(s): GA	Pesticide Sewerage Systems	PCS
03130003	**Middle Chattahoochee-Walter F. George Res.** Region(s): 4 State(s): GA, AL	Divalent Metal Sewerage Systems	PCS
		Other Paper and Allied Products	TRI
03130004	**Lower Chattahoochee** Region(s): 4 State(s): AL, FL, GA	Divalent Metal Public Utilities	PCS
03130005	**Upper Flint** Region(s): 4 State(s): GA	Metal Sewerage Systems	PCS
		Divalent Metal Primary Metal Industries	TRI
03130006	**Middle Flint** Region(s): 4 State(s): GA	Divalent Metal Sewerage Systems	PCS
03130008	**Lower Flint** Region(s): 4 State(s): GA	Divalent Metal Sewerage Systems	PCS
		Other Pharmaceuticals	TRI
03130010	**Spring** Region(s): 4 State(s): GA	Other Sewerage Systems	PCS
03130012	**Chipola** Region(s): 4 State(s): AL, FL	Divalent Metal Public Utilities	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
03140101	**St. Andrew-St. Joseph Bays** Region(s): 4 State(s): FL	Divalent Metal Sewerage Systems	PCS
		Other Industrial Organic Chemicals	TRI
03140105	**Pensacola Bay** Region(s): 4 State(s): FL	Divalent Metal Public Utilities	PCS
		Other Plastic Materials and Synthetics	TRI
03140106	**Perdido** Region(s): 4 State(s): FL, AL	Divalent Metal Sewerage Systems	PCS
		Other Lumber and Wood Products	TRI
03140107 (APC)	**Perdido Bay** Region(s): 4 State(s): FL, AL	Mercury Sewerage Systems	PCS
03140201	**Upper Choctawhatchee** Region(s): 4 State(s): AL	Metal Sewerage Systems	PCS
03140301	**Upper Conecuh** Region(s): 4 State(s): AL	Metal Primary Metal Industries	TRI
03140304	**Lower Conecuh** Region(s): 4 State(s): AL, FL	Other Lumber and Wood Products	PCS
		Other Lumber and Wood Products	TRI
03140305	**Escambia** Region(s): 4 State(s): FL, AL	Divalent Metal Industrial Organic Chemicals	PCS
		Divalent Metal Plastic Materials and Synthetics	TRI
03150101	**Conasauga** Region(s): 4 State(s): GA, TN	Other Textile Products	TRI
03150102	**Coosawattee** Region(s): 4 State(s): GA	Divalent Metal Sewerage Systems	PCS
03150103	**Oostanaula** Region(s): 4 State(s): GA	PCB Metal Products and Finishing	PCS
		Other Textile Products	TRI
03150104	**Etowah** Region(s): 4 State(s): GA	Divalent Metal Sewerage Systems	PCS
		Other Other Chemical Products	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
03150105	**Upper Coosa** Region(s): 4 State(s): AL, GA	Divalent Metal Sewerage Systems	PCS
03150107	**Lower Coosa** Region(s): 4 State(s): AL	Divalent Metal Textile Products	PCS
		Divalent Metal Primary Metal Industries	TRI
03150108	**Upper Tallapoosa** Region(s): 4 State(s): GA, AL	Divalent Metal Metal Products and Finishing	PCS
03150109	**Middle Tallapoosa** Region(s): 4 State(s): AL	Divalent Metal Sewerage Systems	PCS
		Other Textile Products	TRI
03150202	**Cahaba** Region(s): 4 State(s): AL	Other Stone, Clay, and Glass Products	TRI
03150204	**Lower Alabama** Region(s): 4 State(s): AL	Other Lumber and Wood Products	TRI
03160101	**Upper Tombigbee** Region(s): 4 State(s): MS, AL	Divalent Metal Metal Products and Finishing	PCS
		PAH Industrial Inorganic Chemicals	TRI
03160103	**Buttahatchee** Region(s): 4 State(s): AL, MS	Divalent Metal Sewerage Systems	PCS
		Metal Metal Products and Finishing	TRI
03160104	**Tibbee** Region(s): 4 State(s): MS	Divalent Metal Metal Products and Finishing	PCS
03160105	**Luxapallila** Region(s): 4 State(s): AL, MS	Divalent Metal Metal Products and Finishing	TRI
03160106	**Middle Tombigbee-Lubbub** Region(s): 4 State(s): MS, AL	Divalent Metal Paper and Allied Products	PCS
03160107	**Sipsey** Region(s): 4 State(s): AL	Metal Sewerage Systems	PCS
03160108	**Noxubee** Region(s): 4 State(s): MS, AL	Divalent Metal Primary Metal Industries	TRI
03160109	**Mulberry** Region(s): 4 State(s): AL	Other Other Chemical Products	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
03160112	**Upper Black Warrior** Region(s): 4 State(s): AL	PAH Primary Metal Industries	PCS
		Other Petroleum Refining	TRI
03160113	**Lower Black Warrior** Region(s): 4 State(s): AL	Mercury Sewerage Systems	PCS
03160201	**Middle Tombigbee-Chickasaw** Region(s): 4 State(s): AL, MS	Other Paper and Allied Products	TRI
03160203	**Lower Tambigbee** Region(s): 4 State(s): AL	Divalent Metal Industrial Organic Chemicals	PCS
		Other Paper and Allied Products	TRI
03170002	**Upper Chickasawhay** Region(s): 4 State(s): MS, AL	Divalent Metal Textile Products	PCS
03170004	**Upper Leaf** Region(s): 4 State(s): MS	Divalent Metal Public Utilities	PCS
		Other Industrial Organic Chemicals	TRI
03170005	**Lower Leaf** Region(s): 4 State(s): MS	Other Plastic Materials and Synthetics	TRI
03170006	**Pascagoula** Region(s): 4 State(s): MS	Metal Other Chemical Products	PCS
03170007	**Black** Region(s): 4 State(s): MS	Other Lumber and Wood Products	TRI
03170008	**Escatawpa** Region(s): 4 State(s): MS, AL	Other Paper and Allied Products	TRI
03170009	**Mississippi Coastal** Region(s): 6, 4 State(s): LA, AL, MS	Divalent Metal Industrial Inorganic Chemicals	PCS
		PAH Plastic Materials and Synthetics	TRI
03180003	**Middle Pearl-Silver** Region(s): 4 State(s): MS	Divalent Metal Paper and Allied Products	PCS
		Other Paper and Allied Products	TRI
04010102	**Beaver-Lester** Region(s): 5 State(s): MN, WI	Divalent Metal Sewerage Systems	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
04010201	**St. Louis** Region(s): 5 State(s): WI, MN	Divalent Metal Metal Mining	PCS
		Other Paper and Allied Products	TRI
04010301	**Beartrap-Nemadji** Region(s): 5 State(s): MN, WI	Divalent Metal Sewerage Systems	PCS
04020101	**Black-Presque Isle** Region(s): 5 State(s): MI, WI	Divalent Metal Metal Mining	PCS
04020102	**Ontonagon** Region(s): 5 State(s): MI, WI	Divalent Metal Paper and Allied Products	PCS
04020103	**Keweenaw Peninsula** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
04020105	**Dead-Kelsey** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
04020201	**Betsy-Chocolay** Region(s): 5 State(s): MI	Divalent Metal Paper and Allied Products	PCS
04030102 (APC)	**Door-Kewaunee** Region(s): 5 State(s): WI	Mercury Sewerage Systems	PCS
		Other Metal Products and Finishing	TRI
04030105	**Peshtigo** Region(s): 5 State(s): WI	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
04030108 (APC)	**Menominee** Region(s): 5 State(s): MI, WI	Divalent Metal Sewerage Systems	PCS
04030109	**Cedar-Ford** Region(s): 5 State(s): MI	Divalent Metal Metal Products and Finishing	TRI
04030110	**Escanaba** Region(s): 5 State(s): MI	Divalent Metal Coal Mining	PCS
04030201	**Upper Fox** Region(s): 5 State(s): WI	Divalent Metal Sewerage Systems	PCS
04030202	**Wolf** Region(s): 5 State(s): WI	Divalent Metal Primary Metal Industries	PCS
04030203	**Lake Winnebago** Region(s): 5 State(s): WI	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
04040003 (APC)	**Milwaukee** Region(s): 5 State(s): WI	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
04050002	**Black-Macatawa** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
04050003	**Kalamazoo** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
		Other Metal Products and Finishing	TRI
04050005	**Maple** Region(s): 5 State(s): MI	Other Petroleum Refining	PCS
04060101	**Pere Marquette-White** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
		Other Industrial Organic Chemicals	TRI
04060102	**Muskegon** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
		Other Paper and Allied Products	TRI
04060103 (APC)	**Manistee** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
04060105	**Boardman-Charlevoix** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
04060106	**Manistique** Region(s): 5 State(s): MI	Divalent Metal Paper and Allied Products	PCS
04070001	**St. Marys** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
04070002	**Carp-Pine** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
04070004	**Cheboygan** Region(s): 5 State(s): MI	Other Sewerage Systems	PCS
04070006	**Thunder Bay** Region(s): 5 State(s): MI	Divalent Metal Lumber and Wood Products	PCS
		Other Lumber and Wood Products	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
04080201	**Tittabawassee** Region(s): 5 State(s): MI	Other Plastic Materials and Synthetics	PCS
		Other Other Chemical Products	TRI
04080202	**Pine** Region(s): 5 State(s): MI	Metal Petroleum Refining	PCS
		Divalent Metal Metal Products and Finishing	TRI
04080203	**Shiawassee** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
04080204	**Flint** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
04080206	**Saginaw** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
04090001	**St. Clair** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Primary Metal Industries	TRI
04090002 (APC)	**Lake St. Clair** Region(s): 5 State(s): MI	Divalent Metal Primary Metal Industries	PCS
04090003	**Clinton** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
04090005	**Huron** Region(s): 5 State(s): MI	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Primary Metal Industries	TRI
04100001 (APC)	**Ottawa-Stony** Region(s): 5 State(s): OH, MI	Metal Public Utilities	PCS
		Other Other Chemical Products	TRI
04100002 (APC)	**Raisin** Region(s): 5 State(s): MI, OH	Divalent Metal Sewerage Systems	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
04100003	**St. Joseph** Region(s): 5 State(s): MI, OH, IN	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Primary Metal Industries	TRI
04100004	**St. Marys** Region(s): 5 State(s): IN, OH	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Food and Kindred Products	TRI
04100005	**Upper Maumee** Region(s): 5 State(s): IN, OH	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
04100006	**Tiffin** Region(s): 5 State(s): MI, OH	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
04100007	**Auglaize** Region(s): 5 State(s): OH, IN	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
04100008	**Blanchard** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
		Other Metal Products and Finishing	TRI
04100010 (APC)	**Cedar-Portage** Region(s): 5 State(s): MI, OH	Divalent Metal Sewerage Systems	PCS
		Other Petroleum Refining	TRI
04100012 (APC)	**Huron-Vermilion** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
04110004	**Grand** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
		Other Plastic Materials and Synthetics	TRI
04120101 (APC)	**Chautauqua-Conneaut** Region(s): 2, 3, 5 State(s): NY, PA, OH	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
04120102	**Cattaraugus** Region(s): 2 State(s): NY	Divalent Metal Public Utilities	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
04120103 (APC)	**Buffalo-Eighteenmile** Region(s): 2 State(s): NY	Divalent Metal Nonclassifiable	PCS
		Divalent Metal Metal Products and Finishing	TRI
04120200	**Lake Erie** Region(s): 5, 2, 3 State(s): MI, NY, OH, PA	Divalent Metal Sewerage Systems	PCS
04130003	**Lower Genesee** Region(s): 2 State(s): NY	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
04140102	**Salmon-Sandy** Region(s): 2 State(s): NY	Divalent Metal Public Utilities	PCS
04140203	**Oswego** Region(s): 2 State(s): NY	Divalent Metal Sewerage Systems	PCS
04150101	**Black** Region(s): 2 State(s): NY	Divalent Metal Paper and Allied Products	PCS
04150200	**Lake Ontario** Region(s): 2 State(s): NY	Divalent Metal Sewerage Systems	PCS
04150302	**Oswegatchie** Region(s): 2 State(s): NY	Divalent Metal Metal Mining	PCS
04150303	**Indian** Region(s): 2 State(s): NY	Divalent Metal Nonmetallic Mineral Mining	PCS
04150304	**Grass** Region(s): 2 State(s): NY	Divalent Metal Primary Metal Industries	PCS
		Divalent Metal Primary Metal Industries	TRI
04150305	**Raquette** Region(s): 2 State(s): NY	Divalent Metal Paper and Allied Products	PCS
		Divalent Metal Primary Metal Industries	TRI
04150307	**English-Salmon** Region(s): 2 State(s): NY	Divalent Metal Sewerage Systems	PCS
05010001	**Upper Allegheny** Region(s): 3, 2 State(s): PA, NY	Divalent Metal Metal Products and Finishing	PCS
		Divalent Metal Metal Products and Finishing	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
05010002	**Conewango** Region(s): 2, 3 State(s): NY, PA	Divalent Metal Metal Products and Finishing	PCS
		Divalent Metal Metal Products and Finishing	TRI
05010003	**Middle Allegheny-Tionesta** Region(s): 3 State(s): PA	Metal Petroleum Refining	PCS
		Other Petroleum and Coal Products	TRI
05010004	**French** Region(s): 3, 2 State(s): PA, NY	Divalent Metal Sewerage Systems	PCS
		Other Other Chemical Products	TRI
05010005	**Clarion** Region(s): 3 State(s): PA	Metal Sewerage Systems	PCS
		Other Paper and Allied Products	TRI
05010006	**Middle Allegheny-Redbank** Region(s): 3 State(s): PA	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
05010007	**Conemaugh** Region(s): 3 State(s): PA	Divalent Metal Primary Metal Industries	PCS
		Divalent Metal Primary Metal Industries	TRI
05010008	**Kiskiminetas** Region(s): 3 State(s): PA	Divalent Metal Primary Metal Industries	PCS
		Divalent Metal Primary Metal Industries	TRI
05010009	**Lower Allegheny** Region(s): 3 State(s): PA	Divalent Metal Public Utilities	PCS
		Other Petroleum Refining	TRI
05020001	**Tygart Valley** Region(s): 3 State(s): WV	Divalent Metal Sewerage Systems	PCS
05020002	**West Fork** Region(s): 3 State(s): WV	Divalent Metal Sewerage Systems	PCS
05020003	**Upper Monongahela** Region(s): 3 State(s): WV, PA	PAH Industrial Organic Chemicals	PCS
		Divalent Metal Metal Products and Finishing	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
05020006	**Youghiogheny** Region(s): 3 State(s): MD, PA, WV	Divalent Metal Metal Products and Finishing	PCS
05030102 (APC)	**Shenango** Region(s): 5, 3 State(s): OH, PA	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Primary Metal Industries	TRI
05030104	**Beaver** Region(s): 3 State(s): PA	Divalent Metal Public Utilities	PCS
05030105	**Connoquenessing** Region(s): 3 State(s): PA	Divalent Metal Metal Products and Finishing	PCS
		Divalent Metal Primary Metal Industries	TRI
05040003	**Walhonding** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
05040005	**Wills** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
05040006	**Licking** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
05050001	**Upper New** Region(s): 4, 3 State(s): NC, VA	Divalent Metal Industrial Inorganic Chemicals	PCS
05050002	**Middle New** Region(s): 3 State(s): WV, VA	Divalent Metal Plastic Materials and Synthetics	PCS
05050003	**Greenbrier** Region(s): 3 State(s): WV	Metal Leather and Leather Products	PCS
05050004	**Lower New** Region(s): 3 State(s): WV	Divalent Metal Sewerage Systems	PCS
05050006	**Upper Kanawha** Region(s): 3 State(s): WV	Other Industrial Organic Chemicals	PCS
		Other Industrial Organic Chemicals	TRI
05050008	**Lower Kanawha** Region(s): 3 State(s): WV	Pesticide Industrial Inorganic Chemicals	PCS
		Pesticide Pesticides	TRI
05060003	**Paint** Region(s): 5 State(s): OH	Divalent Metal Sewerage Systems	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
05070203	**Lower Levisa** Region(s): 4 State(s): KY	Divalent Metal Metal Products and Finishing	PCS
05070204	**Big Sandy** Region(s): 4, 3 State(s): KY, WV	Divalent Metal Petroleum Refining	PCS
		Other Petroleum Refining	TRI
05090104	**Little Sandy** Region(s): 4 State(s): KY	Divalent Metal Primary Metal Industries	TRI
05090201	**Ohio Brush-Whiteoak** Region(s): 4, 5 State(s): KY, OH	Divalent Metal Public Utilities	PCS
05100101	**Licking** Region(s): 4 State(s): KY	PCB Public Utilities	PCS
		Divalent Metal Primary Metal Industries	TRI
05100102	**South Fork Licking** Region(s): 4 State(s): KY	Divalent Metal Sewerage Systems	PCS
05110001	**Upper Green** Region(s): 4 State(s): KY	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Stone, Clay, and Glass Products	TRI
05110002	**Barren** Region(s): 4 State(s): KY, TN	Divalent Metal Metal Products and Finishing	PCS
		Divalent Metal Metal Products and Finishing	TRI
05110004	**Rough** Region(s): 4 State(s): KY	Divalent Metal Other Trade and Services	PCS
05110005	**Lower Green** Region(s): 4 State(s): KY	Divalent Metal Public Utilities	PCS
		Other Metal Products and Finishing	TRI
05110006	**Pond** Region(s): 4 State(s): KY	Divalent Metal Sewerage Systems	PCS
05120103	**Mississinewa** Region(s): 5 State(s): IN, OH	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Primary Metal Industries	TRI
05120105	**Middle Wabash-Deer** Region(s): 5 State(s): IN	Other Furniture and Fixtures	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
05120106	**Tippecanoe** Region(s): 5 State(s): IN	Divalent Metal Sewerage Systems	PCS
		Other Printing and Publishing	TRI
05120107	**Wildcat** Region(s): 5 State(s): IN	Divalent Metal Sewerage Systems	PCS
		Other Metal Products and Finishing	TRI
05120109 (APC)	**Vermilion** Region(s): 5 State(s): IL, IN	Metal Sewerage Systems	PCS
		Other Industrial Organic Chemicals	TRI
05120110	**Sugar** Region(s): 5 State(s): IN	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
05120111 (APC)	**Middle Wabash-Busseron** Region(s): 5 State(s): IN, IL	Divalent Metal Sewerage Systems	PCS
		PAH Industrial Organic Chemicals	TRI
05120112	**Embarras** Region(s): 5 State(s): IL	Divalent Metal Sewerage Systems	PCS
		Metal Petroleum Refining	TRI
05120113	**Lower Wabash** Region(s): 5 State(s): IL, IN	Divalent Metal Sewerage Systems	PCS
05120114	**Little Wabash** Region(s): 5 State(s): IL	Mercury Sewerage Systems	PCS
05120202	**Lower White** Region(s): 5 State(s): IN	PCB Metal Products and Finishing	PCS
05120204	**Driftwood** Region(s): 5 State(s): IN	Divalent Metal Sewerage Systems	PCS
05120205	**Flatrock-Haw** Region(s): 5 State(s): IN	Divalent Metal Primary Metal Industries	TRI
05120207	**Muscatatuck** Region(s): 5 State(s): IN	Divalent Metal Sewerage Systems	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
05120208	**Lower East Fork White** Region(s): 5 State(s): IN	Divalent Metal National Security	PCS
		Divalent Metal Metal Products and Finishing	TRI
05120209	**Patoka** Region(s): 5 State(s): IN	Divalent Metal Sewerage Systems	PCS
		Other Rubber and Plastics Products	TRI
05130101	**Upper Cumberland** Region(s): 4 State(s): TN, KY	Divalent Metal Sewerage Systems	PCS
		Metal Leather and Leather Products	TRI
05130102	**Rockcastle** Region(s): 4 State(s): KY	Other Other Trade and Services	PCS
05130103	**Upper Cumberland-Lake Cumberland** Region(s): 4 State(s): KY, TN	Divalent Metal Sewerage Systems	PCS
		Other Petroleum Refining	TRI
05130106	**Upper Cumberland-Cordell Hull Reservoir** Region(s): 4 State(s): TN	Divalent Metal Primary Metal Industries	PCS
05130107	**Collins** Region(s): 4 State(s): TN	Divalent Metal Sewerage Systems	PCS
05130201	**Lower Cumberland-Old Hickory Lake** Region(s): 4 State(s): TN	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
05130203	**Stones** Region(s): 4 State(s): TN	Divalent Metal Sewerage Systems	PCS
		Other Metal Products and Finishing	TRI
05130204	**Harpeth** Region(s): 4 State(s): TN	Divalent Metal Metal Products and Finishing	TRI
05130205	**Lower Cumberland** Region(s): 4 State(s): TN, KY	Divalent Metal Primary Metal Industries	PCS
		Other Metal Products and Finishing	TRI
05130206	**Red** Region(s): 4 State(s): TN, KY	Divalent Metal Sewerage Systems	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
05140103	**Rolling Fork** Region(s): 4 State(s): KY	Divalent Metal Sewerage Systems	PCS
05140104	**Blue-Sinking** Region(s): 4, 5 State(s): KY, IN	Divalent Metal Industrial Organic Chemicals	PCS
		Divalent Metal Metal Products and Finishing	TRI
05140203	**Lower Ohio-Bay** Region(s): 4, 5 State(s): KY, IL	Divalent Metal Sewerage Systems	PCS
05140205	**Tradewater** Region(s): 4 State(s): KY	Divalent Metal Sewerage Systems	PCS
06010103	**Watauga** Region(s): 4 State(s): NC, TN	Divalent Metal Sewerage Systems	PCS
		Other Metal Products and Finishing	TRI
06010105	**Upper French Broad** Region(s): 4 State(s): NC, TN	Divalent Metal Metal Products and Finishing	TRI
06010106	**Pigeon** Region(s): 4 State(s): TN, NC	Divalent Metal Paper and Allied Products	PCS
		Other Paper and Allied Products	TRI
06010107	**Lower French Broad** Region(s): 4 State(s): TN	Divalent Metal Sewerage Systems	PCS
06010108	**Nolichucky** Region(s): 4 State(s): TN, NC	Divalent Metal Plastic Materials and Synthetics	PCS
		Divalent Metal Primary Metal Industries	TRI
06010202	**Upper Little Tennessee** Region(s): 4 State(s): GA, NC	Divalent Metal Textile Products	PCS
06010204	**Lower Little Tennessee** Region(s): 4 State(s): NC, TN	Divalent Metal Primary Metal Industries	PCS
		Divalent Metal Primary Metal Industries	TRI
06010205	**Upper Clinch** Region(s): 4, 3 State(s): TN, VA	Divalent Metal Public Utilities	PCS
06010208	**Emory** Region(s): 4 State(s): TN	Metal Sewerage Systems	PCS
		Other Metal Products and Finishing	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
06020002 (APC)	**Hiwassee** Region(s): 4 State(s): GA, NC, TN	Divalent Metal Sewerage Systems	PCS
		Mercury Industrial Inorganic Chemicals	TRI
06020003	**Ocoee** Region(s): 4 State(s): GA, TN, NC	Divalent Metal Industrial Inorganic Chemicals	PCS
06030001 (APC)	**Guntersville Lake** Region(s): 4 State(s): TN, AL, GA	Divalent Metal Sewerage Systems	PCS
06030003	**Upper Elk** Region(s): 4 State(s): TN, AL	Divalent Metal Sewerage Systems	PCS
06030004	**Lower Elk** Region(s): 4 State(s): AL, TN	Metal Sewerage Systems	PCS
		Metal Metal Products and Finishing	TRI
06030006	**Bear** Region(s): 4 State(s): AL, MS	Metal Sewerage Systems	PCS
		Other Rubber and Plastics Products	TRI
06040001 (APC)	**Lower Tennessee-Beech** Region(s): 4 State(s): TN, MS	Divalent Metal Sewerage Systems	PCS
		Other Paper and Allied Products	TRI
06040002	**Upper Duck** Region(s): 4 State(s): TN	Divalent Metal Sewerage Systems	PCS
		Other Metal Products and Finishing	TRI
06040003	**Lower Duck** Region(s): 4 State(s): TN	Divalent Metal Metal Products and Finishing	PCS
06040004	**Buffalo** Region(s): 4 State(s): TN	Divalent Metal Metal Products and Finishing	TRI
06040005 (APC)	**Kentucky Lake** Region(s): 4 State(s): KY, TN	Metal Public Utilities	PCS
		Divalent Metal Metal Products and Finishing	TRI
07010103	**Prairie-Willow** Region(s): 5 State(s): MN	Divalent Metal Public Utilities	PCS
07010104	**Elk-Nokasippi** Region(s): 5 State(s): MN	Divalent Metal Metal Products and Finishing	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
07010108	**Long Prairie** Region(s): 5 State(s): MN	Divalent Metal Sewerage Systems	PCS
07010202	**Sauk** Region(s): 5 State(s): MN	Divalent Metal Metal Products and Finishing	TRI
07010203	**Clearwater-Elk** Region(s): 5 State(s): MN	PAH Other Trade and Services	PCS
07010205	**South Fork Crow** Region(s): 5 State(s): MN	Divalent Metal Sewerage Systems Other Metal Products and Finishing	PCS TRI
07010207	**Rum** Region(s): 5 State(s): MN	Divalent Metal Metal Products and Finishing	PCS
07020004	**Hawk-Yellow Medicine** Region(s): 5 State(s): MN	Divalent Metal Sewerage Systems	PCS
07020007	**Middle Minnesota** Region(s): 5 State(s): MN	Metal Sewerage Systems Other Metal Products and Finishing	PCS TRI
07020009	**Blue Earth** Region(s): 5, 7 State(s): MN, IA	Divalent Metal Sewerage Systems	PCS
07020010	**Watonwan** Region(s): 5 State(s): MN	Divalent Metal Sewerage Systems	PCS
07020011	**Le Sueur** Region(s): 5 State(s): MN	Divalent Metal Sewerage Systems	PCS
07030005	**Lower St. Croix** Region(s): 5 State(s): MN, WI	Mercury Sewerage Systems Other Lumber and Wood Products	PCS TRI
07040001 (APC)	**Rush-Vermillion** Region(s): 5 State(s): WI, MN	Metal Leather and Leather Products Other Leather and Leather Products	PCS TRI
07040002	**Cannon** Region(s): 5 State(s): MN	Divalent Metal Sewerage Systems	PCS
07040003 (APC)	**Buffalo-Whitewater** Region(s): 5 State(s): WI, MN	Divalent Metal Sewerage Systems	PCS
07040004	**Zumbro** Region(s): 5 State(s): MN	Divalent Metal Sewerage Systems	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
07040005	**Trempealeau** Region(s): 5 State(s): WI	Metal Sewerage Systems	PCS
07040006	**La Crosse-Pine** Region(s): 5 State(s): WI, MN	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
07040007	**Black** Region(s): 5 State(s): WI	Divalent Metal Sewerage Systems	PCS
07050003	**South Fork Flambeau** Region(s): 5 State(s): WI	Divalent Metal Sewerage Systems	PCS
07050005	**Lower Chippewa** Region(s): 5 State(s): WI	Divalent Metal Sewerage Systems	PCS
07050007	**Red Cedar** Region(s): 5 State(s): WI	Divalent Metal Sewerage Systems	PCS
07060001	**Coon-Yellow** Region(s): 7, 5 State(s): IA, MN, WI	Divalent Metal Sewerage Systems	PCS
		Other Stone, Clay, and Glass Products	TRI
07060003	**Grant-Little Maquoketa** Region(s): 5, 7 State(s): WI, IA	Divalent Metal Sewerage Systems	PCS
07060005	**Apple-Plum** Region(s): 7, 5 State(s): IA, WI, IL	Metal Sewerage Systems	PCS
07070001	**Upper Wisconsin** Region(s): 5 State(s): WI, MI	Divalent Metal Paper and Allied Products	PCS
		Divalent Metal Metal Products and Finishing	TRI
07070002	**Lake Dubay** Region(s): 5 State(s): WI	Divalent Metal Sewerage Systems	PCS
		Other Other Chemical Products	TRI
07070003 (APC)	**Castle Rock** Region(s): 5 State(s): WI	Divalent Metal Paper and Allied Products	PCS
		Other Paper and Allied Products	TRI
07070004	**Baraboo** Region(s): 5 State(s): WI	Divalent Metal Plastic Materials and Synthetics	PCS
07070005	**Lower Wisconsin** Region(s): 5 State(s): WI	Divalent Metal Metal Products and Finishing	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
07080104	**Flint-Henderson** Region(s): 7, 5 State(s): IA, IL	Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
07080105	**South Skunk** Region(s): 7 State(s): IA	Divalent Metal Metal Products and Finishing	PCS
07080201	**Upper Cedar** Region(s): 7, 5 State(s): IA, MN	Metal Pharmaceuticals	PCS
		Other Industrial Organic Chemicals	TRI
07080202	**Shell Rock** Region(s): 5, 7 State(s): MN, IA	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
07080203	**Winnebago** Region(s): 7, 5 State(s): IA, MN	Divalent Metal Sewerage Systems	PCS
07080205	**Middle Cedar** Region(s): 7 State(s): IA	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
07080206	**Lower Cedar** Region(s): 7 State(s): IA	Other Metal Products and Finishing	TRI
07080208	**Middle Iowa** Region(s): 7 State(s): IA	Divalent Metal Metal Products and Finishing	PCS
		Other Metal Products and Finishing	TRI
07080209	**Lower Iowa** Region(s): 7 State(s): IA	Mercury Sewerage Systems	PCS
07090003	**Pecatonica** Region(s): 5 State(s): WI, IL	Divalent Metal Sewerage Systems	PCS
07090007	**Green** Region(s): 5 State(s): IL	Mercury Sewerage Systems	PCS
07100003	**East Fork Des Moines** Region(s): 7, 5 State(s): IA, MN	Divalent Metal Sewerage Systems	PCS
07100005	**Boone** Region(s): 7 State(s): IA	Metal Sewerage Systems	PCS
07100007	**South Raccoon** Region(s): 7 State(s): IA	Divalent Metal Sewerage Systems	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
07100008	**Lake Red Rock** Region(s): 7 State(s): IA	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
07100009	**Lower Des Moines** Region(s): 7 State(s): MO, IA	Metal Sewerage Systems	PCS
07110004	**The Sny** Region(s): 7, 5 State(s): MO, IL	Other Pesticides	TRI
07110006	**South Fork Salt** Region(s): 7 State(s): MO	Other Primary Metal Industries	TRI
07120002	**Iroquois** Region(s): 5 State(s): IL, IN	Divalent Metal Metal Products and Finishing	PCS
		Divalent Metal Primary Metal Industries	TRI
07120005	**Upper Illinois** Region(s): 5 State(s): IL	Metal Sewerage Systems	PCS
07120007	**Lower Fox** Region(s): 5 State(s): IL	Mercury Rubber and Plastics Products	PCS
		Divalent Metal Metal Products and Finishing	TRI
07130002	**Vermilion** Region(s): 5 State(s): IL	Other Metal Products and Finishing	TRI
07130003	**Lower Illinois-Lake Chautauqua** Region(s): 5 State(s): IL	Divalent Metal Metal Products and Finishing	PCS
		Pesticide Pesticides	TRI
07130005	**Spoon** Region(s): 5 State(s): IL	Divalent Metal Lumber and Wood Products	PCS
		Other Rubber and Plastics Products	TRI
07130006	**Upper Sangamon** Region(s): 5 State(s): IL	Mercury Sewerage Systems	PCS
		Divalent Metal Food and Kindred Products	TRI
07130007	**South Fork Sangamon** Region(s): 5 State(s): IL	Divalent Metal Public Utilities	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
07130009	**Salt** Region(s): 5 State(s): IL	Metal Sewerage Systems Divalent Metal Metal Products and Finishing	PCS TRI
07130010	**La Moine** Region(s): 5 State(s): IL	Metal Sewerage Systems Divalent Metal Metal Products and Finishing	PCS TRI
07130011	**Lower Illinois** Region(s): 5 State(s): IL	Divalent Metal Public Utilities Divalent Metal Food and Kindred Products	PCS TRI
07130012	**Macoupin** Region(s): 5 State(s): IL	Metal Sewerage Systems	PCS
07140102	**Meramec** Region(s): 7 State(s): MO	Divalent Metal Metal Mining	PCS
07140106 (APC)	**Big Muddy** Region(s): 5 State(s): IL	Metal Sewerage Systems Divalent Metal Metal Products and Finishing	PCS TRI
07140107	**Whitewater** Region(s): 7 State(s): MO	Divalent Metal Metal Products and Finishing	TRI
07140201 (APC)	**Upper Kaskaskia** Region(s): 5 State(s): IL	Metal Sewerage Systems Divalent Metal Food and Kindred Products	PCS TRI
07140202 (APC)	**Middle Kaskaskia** Region(s): 5 State(s): IL	Divalent Metal Sewerage Systems	PCS
07140203	**Shoal** Region(s): 5 State(s): IL	Metal Sewerage Systems	PCS
07140204	**Lower Kaskaskia** Region(s): 5 State(s): IL	Divalent Metal Sewerage Systems	PCS
08010100 (APC)	**Lower Mississippi-Memphis** Region(s): 6, 4, 7 State(s): AR, MS, KY, MO, TN	Pesticide Sewerage Systems Other Other Chemical Products	PCS TRI
08010202	**Obion** Region(s): 4 State(s): KY, TN	Divalent Metal Rubber and Plastics Products	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
08010203	**South Fork Obion** Region(s): 4 State(s): TN	Divalent Metal / Sewerage Systems	PCS
08010204	**North Fork Forked Deer** Region(s): 4 State(s): TN	Divalent Metal / Sewerage Systems	PCS
08010205	**South Fork Forked Deer** Region(s): 4 State(s): TN	Metal / Rubber and Plastics Products	PCS
		Other / Stone, Clay, and Glass Products	TRI
08010207	**Upper Hatchie** Region(s): 4 State(s): TN, MS	Divalent Metal / Metal Products and Finishing	TRI
08010208	**Lower Hatchie** Region(s): 4 State(s): TN, MS	Divalent Metal / Metal Products and Finishing	PCS
		Divalent Metal / Metal Products and Finishing	TRI
08010209	**Loosahatchie** Region(s): 4 State(s): TN	PAH / Industrial Inorganic Chemicals	TRI
08010210	**Wolf** Region(s): 4 State(s): TN, MS	Pesticide / Industrial Organic Chemicals	TRI
08010211	**Horn Lake-Nonconnah** Region(s): 4 State(s): TN, MS	Divalent Metal / Public Utilities	PCS
		Other / Petroleum Refining	TRI
08020100	**Lower Mississippi-Helena** Region(s): 6, 4 State(s): AR, MS	Other / Industrial Organic Chemicals	TRI
08020202	**Upper St. Francis** Region(s): 7 State(s): MO	Divalent Metal / Primary Metal Industries	TRI
08020203	**Lower St. Francis** Region(s): 7, 6 State(s): MO, AR	Divalent Metal / Furniture and Fixtures	PCS
		Divalent Metal / Printing and Publishing	TRI
08020204	**Little River Ditches** Region(s): 6, 7 State(s): AR, MO	Divalent Metal / Primary Metal Industries	PCS
		Divalent Metal / Metal Products and Finishing	TRI
08020205	**L'Anguille** Region(s): 6 State(s): AR	Divalent Metal / Metal Products and Finishing	PCS
		Divalent Metal / Primary Metal Industries	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
08020303	**Lower White** Region(s): 6 State(s): AR	Divalent Metal Metal Products and Finishing	PCS
08020402	**Bayou Meto** Region(s): 6 State(s): AR	Pesticide Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
08030201	**Little Tallahatchie** Region(s): 4 State(s): MS	Divalent Metal Metal Products and Finishing	PCS
08030204	**Coldwater** Region(s): 4 State(s): MS, TN	Divalent Metal Furniture and Fixtures	TRI
08030205	**Yalobusha** Region(s): 4 State(s): MS	Metal Metal Products and Finishing	PCS
08030206	**Upper Yazoo** Region(s): 4 State(s): MS	Metal Other Chemical Products	PCS
08030207	**Big Sunflower** Region(s): 4 State(s): MS	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Primary Metal Industries	TRI
08030208	**Lower Yazoo** Region(s): 4, 6 State(s): MS, LA	Divalent Metal Paper and Allied Products	PCS
		Other Paper and Allied Products	TRI
08030209 (APC)	**Deer-Steele** Region(s): 4, 6 State(s): MS, LA	Metal Pesticides	PCS
		Other Pesticides	TRI
08040102	**Upper Ouachita** Region(s): 6 State(s): AR	Divalent Metal Public Utilities	PCS
08040202	**Lower Ouachita-Bayou De Loutre** Region(s): 6 State(s): LA, AR	PCB Other Trade and Services	PCS
		Other Paper and Allied Products	TRI
08040203	**Upper Saline** Region(s): 6 State(s): AR	Divalent Metal Metal Products and Finishing	TRI
08040206	**Bayou D'Arbonne** Region(s): 6 State(s): AR, LA	Divalent Metal Sewerage Systems	PCS
08040207 (APC)	**Lower Ouachita** Region(s): 6 State(s): LA	Other Paper and Allied Products	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
08040301	**Lower Red** Region(s): 6 State(s): LA	Other Lumber and Wood Products	TRI
08040304	**Little** Region(s): 6 State(s): LA	Mercury Sewerage Systems	PCS
		Other Lumber and Wood Products	TRI
08050001	**Boeuf** Region(s): 6 State(s): AR, LA	Divalent Metal Sewerage Systems	PCS
		Other Other Chemical Products	TRI
08060100	**Lower Mississippi-Natchez** Region(s): 4, 6 State(s): MS, LA	Other Paper and Allied Products	TRI
08060201	**Upper Big Black** Region(s): 4 State(s): MS	Divalent Metal Sewerage Systems	PCS
08070202	**Amite** Region(s): 6, 4 State(s): LA, MS	Metal Industrial Organic Chemicals	TRI
08070203	**Tickfaw** Region(s): 6, 4 State(s): LA, MS	Divalent Metal Pharmaceuticals	PCS
08070204	**Lake Maurepas** Region(s): 6 State(s): LA	Mercury Public Utilities	PCS
		Other Industrial Organic Chemicals	TRI
08070300	**Lower Grand** Region(s): 6 State(s): LA	Divalent Metal Public Utilities	PCS
08080102	**Bayou Teche** Region(s): 6 State(s): LA	Divalent Metal Industrial Inorganic Chemicals	PCS
08080103	**Vermilion** Region(s): 6 State(s): LA	Other Industrial Organic Chemicals	TRI
08080201	**Mermentau Headwaters** Region(s): 6 State(s): LA	Divalent Metal Sewerage Systems	PCS
08080205	**West Fork Calcasieu** Region(s): 6 State(s): LA	Divalent Metal Pharmaceuticals	PCS
08090201	**Liberty Bayou-Tchefuncta** Region(s): 6 State(s): LA	Divalent Metal Sewerage Systems	PCS
08090202	**Lake Pontchartrain** Region(s): 6 State(s): LA	PAH Plastic Materials and Synthetics	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
08090203	**Eastern Louisiana Coastal** Region(s): 4, 6 State(s): MS, LA	Metal Sewerage Systems Divalent Metal Petroleum Refining	PCS TRI
08090301	**East Central Louisiana Coastal** Region(s): 6 State(s): LA	Divalent Metal Other Chemical Products	PCS
08090302	**West Central Louisiana Coastal** Region(s): 6 State(s): LA	Divalent Metal Stone, Clay, and Glass Products	TRI
09020104	**Upper Red** Region(s): 5, 8 State(s): MN, ND	Other Other Trade and Services Metal Lumber and Wood Products	PCS TRI
09030004	**Upper Rainy** Region(s): 5 State(s): MN	Other Paper and Allied Products	TRI
10120110	**Rapid** Region(s): 8 State(s): SD	Metal Sewerage Systems	PCS
10120201	**Upper Belle Fourche** Region(s): 8 State(s): WY, SD	Other Metal Products and Finishing	TRI
10120202	**Lower Belle Fourche** Region(s): 8 State(s): SD, MT, WY	Divalent Metal Metal Mining	PCS
10120203	**Redwater** Region(s): 8 State(s): SD, WY	Metal Metal Mining	PCS
10130101	**Painted Woods-Square Butte** Region(s): 8 State(s): ND	Divalent Metal Public Utilities	PCS
10130102	**Upper Lake Oahe** Region(s): 8 State(s): ND, SD	Divalent Metal Sewerage Systems	PCS
10130203	**Lower Heart** Region(s): 8 State(s): ND	Metal Petroleum Refining	PCS
10140101	**Fort Randall Reservoir** Region(s): 8 State(s): SD	Divalent Metal Sewerage Systems	PCS
10150004	**Middle Niobrara** Region(s): 7, 8 State(s): NE, SD	Divalent Metal Sewerage Systems	PCS
10170102	**Vermillion** Region(s): 8 State(s): SD	Divalent Metal Sewerage Systems	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
10170203	**Lower Big Sioux** Region(s): 5, 7, 8 State(s): MN, IA, SD	Metal Other Trade and Services	PCS
		Divalent Metal Metal Products and Finishing	TRI
10180007	**Middle North Platte-Casper** Region(s): 8 State(s): WY	Divalent Metal Public Utilities	PCS
10180009	**Middle North Platte-Scotts Bluff** Region(s): 8, 7 State(s): WY, NE	Divalent Metal Sewerage Systems	PCS
10180014	**Lower North Platte** Region(s): 7 State(s): NE	Divalent Metal Other Trade and Services	PCS
10190001	**South Platte Headwaters** Region(s): 8 State(s): CO	Divalent Metal Metal Mining	PCS
10190002	**Upper South Platte** Region(s): 8 State(s): CO	Divalent Metal Sewerage Systems	PCS
10190004	**Clear** Region(s): 8 State(s): CO	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Food and Kindred Products	TRI
10190005	**St. Vrain** Region(s): 8 State(s): CO	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
10190006	**Big Thompson** Region(s): 8 State(s): CO	Divalent Metal Sewerage Systems	PCS
10190007	**Cache La Poudre** Region(s): 8 State(s): CO, WY	Divalent Metal Sewerage Systems	PCS
10190009	**Crow** Region(s): 8 State(s): CO, WY	Divalent Metal Sewerage Systems	PCS
10190012	**Middle South Platte-Sterling** Region(s): 8, 7 State(s): CO, NE	Divalent Metal Sewerage Systems	PCS
10190016	**Lower Lodgepole** Region(s): 7, 8 State(s): NE, CO, WY	Divalent Metal Sewerage Systems	PCS
10200101	**Middle Platte-Buffalo** Region(s): 7 State(s): NE	Metal Metal Products and Finishing	PCS
		Divalent Metal Metal Products and Finishing	TRI
10200102	**Wood** Region(s): 7 State(s): NE	Divalent Metal Sewerage Systems	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
10200103	**Middle Platte-Prairie** Region(s): 7 State(s): NE	Divalent Metal Metal Products and Finishing	PCS
10200201	**Lower Platte-Shell** Region(s): 7 State(s): NE	Divalent Metal Metal Products and Finishing	PCS
10200202	**Lower Platte** Region(s): 7 State(s): NE	Divalent Metal Metal Products and Finishing	PCS
		Divalent Metal Metal Products and Finishing	TRI
10200203	**Salt** Region(s): 7 State(s): NE	Divalent Metal Metal Products and Finishing	PCS
		Divalent Metal Food and Kindred Products	TRI
10210007	**Lower North Loup** Region(s): 7 State(s): NE	Divalent Metal Sewerage Systems	PCS
10210009	**Loup** Region(s): 7 State(s): NE	Divalent Metal Sewerage Systems	PCS
10220001	**Upper Elkhorn** Region(s): 7 State(s): NE	Divalent Metal Sewerage Systems	PCS
10220002	**North Fork Elkhorn** Region(s): 7 State(s): NE	Divalent Metal Metal Products and Finishing	PCS
10220003	**Lower Elkhorn** Region(s): 7 State(s): NE	Other Other Trade and Services	PCS
10220004	**Logan** Region(s): 7 State(s): NE	Divalent Metal Sewerage Systems	PCS
10230001	**Blackbird-Soldier** Region(s): 7 State(s): IA, NE	Divalent Metal Sewerage Systems	PCS
10240001	**Keg-Weeping Water** Region(s): 7 State(s): NE, IA, MO	Divalent Metal Metal Products and Finishing	PCS
10240003	**East Nishnabotna** Region(s): 7 State(s): IA	Divalent Metal Sewerage Systems	PCS
10240005	**Tarkio-Wolf** Region(s): 7 State(s): KS, NE, IA, MO	Divalent Metal Primary Metal Industries	PCS
10240009	**West Nodaway** Region(s): 7 State(s): IA	Divalent Metal Sewerage Systems	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
10240011	**Independence-Sugar** Region(s): 7 State(s): KS, MO	Divalent Metal Sewerage Systems	PCS
		Other Stone, Clay, and Glass Products	TRI
10250004	**Upper Republican** Region(s): 7, 8 State(s): NE, CO, KS	Divalent Metal Sewerage Systems	PCS
10250016	**Middle Republican** Region(s): 7 State(s): KS, NE	Divalent Metal Sewerage Systems	PCS
10260008	**Lower Smoky Hill** Region(s): 7 State(s): KS	Divalent Metal Sewerage Systems	PCS
10270102	**Middle Kansas** Region(s): 7 State(s): KS	Divalent Metal Sewerage Systems	PCS
10270104 (APC)	**Lower Kansas** Region(s): 7 State(s): MO, KS	Metal National Security	PCS
10270202	**Middle Big Blue** Region(s): 7 State(s): NE	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
10270203	**West Fork Big Blue** Region(s): 7 State(s): NE	Divalent Metal Metal Products and Finishing	PCS
10270206	**Upper Little Blue** Region(s): 7 State(s): NE, KS	Divalent Metal Metal Products and Finishing	TRI
10290106	**Sac** Region(s): 7 State(s): MO	Divalent Metal Metal Products and Finishing	TRI
10290108	**South Grand** Region(s): 7 State(s): MO, KS	Divalent Metal Metal Products and Finishing	TRI
10300101	**Lower Missouri-Crooked** Region(s): 7 State(s): KS, MO	Divalent Metal Other Trade and Services	PCS
		Divalent Metal Metal Products and Finishing	TRI
10300102	**Lower Missouri-Moreau** Region(s): 7 State(s): MO	Divalent Metal Metal Products and Finishing	TRI
10300104	**Blackwater** Region(s): 7 State(s): MO	Divalent Metal Metal Products and Finishing	TRI
10300200	**Lower Missouri** Region(s): 7 State(s): MO	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Primary Metal Industries	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
11010002	**James** Region(s): 7 State(s): MO	Divalent Metal Metal Products and Finishing	TRI
11010004	**Middle White** Region(s): 6 State(s): AR	Divalent Metal Industrial Organic Chemicals	PCS
11010013	**Upper White-Village** Region(s): 6 State(s): AR	Divalent Metal Primary Metal Industries	TRI
11010014	**Little Red** Region(s): 6 State(s): AR	Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
11020001	**Arkansas Headwaters** Region(s): 8 State(s): CO	Divalent Metal Metal Mining	PCS
11020002	**Upper Arkansas** Region(s): 8 State(s): CO	Divalent Metal Primary Metal Industries	PCS
11020003	**Fountain** Region(s): 8 State(s): CO	Divalent Metal Sewerage Systems	PCS
11020009	**Upper Arkansas-John Martin Reservoir** Region(s): 8, 7 State(s): CO, KS	Other Public Utilities	PCS
11030010	**Gar-Peace** Region(s): 7 State(s): KS	Divalent Metal National Security	PCS
11030013	**Middle Arkansas-Slate** Region(s): 7 State(s): KS	Other Petroleum Refining	TRI
11030017	**Upper Walnut River** Region(s): 7 State(s): KS	Metal Petroleum Refining	PCS
		Other Petroleum Refining	TRI
11030018	**Lower Walnut River** Region(s): 7 State(s): KS	Divalent Metal Metal Products and Finishing	TRI
11050002	**Lower Cimarron-Skeleton** Region(s): 6 State(s): OK	Metal Sewerage Systems	PCS
11050003	**Lower Cimarron** Region(s): 6 State(s): OK	Divalent Metal Primary Metal Industries	TRI
11060001	**Kaw Lake** Region(s): 7, 6 State(s): KS, OK	Metal Petroleum Refining	PCS
11060004	**Lower Salt Fork Arkansas** Region(s): 6, 7 State(s): OK, KS	Other Petroleum Refining	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
11070104	**Elk** Region(s): 7 State(s): KS	Other Metal Products and Finishing	TRI
11070105	**Lower Verdigris** Region(s): 6 State(s): OK	Divalent Metal Other Chemical Products	PCS
11070107	**Bird** Region(s): 6 State(s): OK	Mercury Sewerage Systems	PCS
11070204	**Upper Neosho** Region(s): 7 State(s): KS	Divalent Metal Metal Products and Finishing	TRI
11070207 (APC)	**Spring** Region(s): 6, 7 State(s): OK, MO, KS	Divalent Metal Primary Metal Industries	TRI
11070209 (APC)	**Lower Neosho** Region(s): 6 State(s): OK, AR	Pesticide Sewerage Systems	PCS
11090106	**Middle Canadian-Spring** Region(s): 6 State(s): TX	Other Petroleum Refining	TRI
11090201	**Lower Canadian-Deer** Region(s): 6 State(s): OK, TX	Metal Sewerage Systems	PCS
11090203	**Little** Region(s): 6 State(s): OK	Divalent Metal Metal Products and Finishing	TRI
11100302	**Lower North Canadian** Region(s): 6 State(s): OK	Pesticide Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
11100303	**Deep Fork** Region(s): 6 State(s): OK	Metal Sewerage Systems	PCS
11110101	**Polecat-Snake** Region(s): 6 State(s): OK	PCB Sewerage Systems	PCS
		Metal Petroleum Refining	TRI
11110103	**Illinois** Region(s): 6 State(s): OK, AR	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
11110104	**Robert S. Kerr Reservoir** Region(s): 6 State(s): AR, OK	Divalent Metal Primary Metal Industries	PCS
11110105	**Poteau** Region(s): 6 State(s): AR, OK	Divalent Metal Public Utilities	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
11110201	**Frog-Mulberry** Region(s): 6 State(s): AR	Divalent Metal Metal Products and Finishing	PCS
11110202	**Dardanelle Reservoir** Region(s): 6 State(s): AR	Divalent Metal Public Utilities	PCS
11110207	**Lower Arkansas-Maumelle** Region(s): 6 State(s): AR	Mercury Sewerage Systems	PCS
		Divalent Metal Primary Metal Industries	TRI
11120103	**Upper Prairie Dog Town Fork red** Region(s): 6 State(s): TX	Other Stone, Clay, and Glass Products	TRI
11130202	**Cache** Region(s): 6 State(s): OK	Divalent Metal Sewerage Systems	PCS
11130206	**Wichita** Region(s): 6 State(s): TX	Divalent Metal Metal Products and Finishing	TRI
11130208	**Northern Beaver** Region(s): 6 State(s): OK	Divalent Metal Sewerage Systems	PCS
11130303	**Middle Washita** Region(s): 6 State(s): OK	Mercury Sewerage Systems	PCS
11140101	**Bois D'Arc-Island** Region(s): 6 State(s): TX, OK	Other Paper and Allied Products	TRI
11140107	**Upper Little** Region(s): 6 State(s): OK	Divalent Metal Sewerage Systems	PCS
11140108	**Mountain Fork** Region(s): 6 State(s): AR, OK	Other Lumber and Wood Products	PCS
11140109	**Lower Little** Region(s): 6 State(s): AR, OK	Other Lumber and Wood Products	TRI
11140203	**Loggy Bayou** Region(s): 6 State(s): LA, AR	Divalent Metal Metal Products and Finishing	PCS
11140204	**Red Chute** Region(s): 6 State(s): LA	Divalent Metal Primary Metal Industries	TRI
11140205	**Bodcau Bayou** Region(s): 6 State(s): AR, LA	Divalent Metal Public Utilities	PCS
11140206	**Bayou Pierre** Region(s): 6 State(s): LA	Other Petroleum Refining	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
11140302	**Lower Sulphur** Region(s): 6 State(s): AR, TX	Divalent Metal Metal Products and Finishing	PCS
		Other Paper and Allied Products	TRI
11140304	**Cross Bayou** Region(s): 6 State(s): AR, TX, LA	Divalent Metal Sewerage Systems	PCS
11140305	**Lake O'The Pines** Region(s): 6 State(s): TX	Divalent Metal Primary Metal Industries	PCS
11140307	**Little Cypress** Region(s): 6 State(s): TX	Pesticide Other Trade and Services	PCS
12010002	**Middle Sabine** Region(s): 6 State(s): TX, LA	Divalent Metal Industrial Organic Chemicals	PCS
		Divalent Metal Metal Products and Finishing	TRI
12010005	**Lower Sabine** Region(s): 6 State(s): LA, TX	Divalent Metal Industrial Organic Chemicals	PCS
		Other Paper and Allied Products	TRI
12020001	**Upper Neches** Region(s): 6 State(s): TX	Divalent Metal Petroleum Refining	PCS
		Other Petroleum Refining	TRI
12020002	**Middle Neches** Region(s): 6 State(s): TX	Metal Sewerage Systems	PCS
12020004	**Upper Angelina** Region(s): 6 State(s): TX	Metal Sewerage Systems	PCS
12020005	**Lower Angelina** Region(s): 6 State(s): TX	Other Paper and Allied Products	TRI
12030102	**Lower West Fork Trinity** Region(s): 6 State(s): TX	Divalent Metal Industrial Organic Chemicals	TRI
12030103	**Elm Fork Trinity** Region(s): 6 State(s): TX	Divalent Metal Sewerage Systems	PCS
		Other Metal Products and Finishing	TRI
12030105	**Upper Trinity** Region(s): 6 State(s): TX	Other Metal Products and Finishing	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
12030106	**East Fork Trinity** Region(s): 6 State(s): TX	Metal Sewerage Systems Other Other Chemical Products	PCS TRI
12030107	**Cedar** Region(s): 6 State(s): TX	Metal Sewerage Systems	PCS
12030203	**Lower Trinity** Region(s): 6 State(s): TX	Mercury Sewerage Systems	PCS
12040101	**West Fork San Jacinto** Region(s): 6 State(s): TX	PAH Industrial Organic Chemicals Metal Lumber and Wood Products	PCS TRI
12040102	**Spring** Region(s): 6 State(s): TX	Metal Sewerage Systems	PCS
12040201	**Sabine Lake** Region(s): 6 State(s): LA, TX	Pesticide Sewerage Systems Other Petroleum Refining	PCS TRI
12040203	**North Galveston Bay** Region(s): 6 State(s): TX	PAH Other Trade and Services Other Petroleum Refining	PCS TRI
12040205	**Austin-Oyster** Region(s): 6 State(s): TX	Divalent Metal Industrial Inorganic Chemicals	PCS
12050001	**Yellow House Draw** Region(s): 6 State(s): TX, NM	Divalent Metal Metal Products and Finishing	TRI
12050003	**North Fork Double Mountain Fork brazos** Region(s): 6 State(s): TX	Other Metal Products and Finishing	TRI
12060102	**Upper Clear Fork Brazos** Region(s): 6 State(s): TX	Other Petroleum Refining	TRI
12070101	**Lower Brazos-Little Brazos** Region(s): 6 State(s): TX	Metal Sewerage Systems	PCS
12070204	**Little** Region(s): 6 State(s): TX	Divalent Metal Furniture and Fixtures	TRI
12080002	**Colorado Headwaters** Region(s): 6 State(s): TX	Mercury Sewerage Systems	PCS
12080003	**Monument-Seminole Draws** Region(s): 6 State(s): NM, TX	Other Other Chemical Products	TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
12090205	**Austin-Travis Lakes** Region(s): 6 State(s): TX	Other Pharmaceuticals	TRI
12090302	**Lower Colorado** Region(s): 6 State(s): TX	Divalent Metal Industrial Organic Chemicals	PCS
12090402	**East Matagorda Bay** Region(s): 6 State(s): TX	Metal Petroleum Refining	PCS
		Other Petroleum Refining	TRI
12100204	**Lower Guadalupe** Region(s): 6 State(s): TX	Divalent Metal Plastic Materials and Synthetics	PCS
12100302	**Medina** Region(s): 6 State(s): TX	Divalent Metal Metal Products and Finishing	PCS
12100303	**Lower San Antonio** Region(s): 6 State(s): TX	Other Petroleum and Coal Products	TRI
12100401	**Central Matagorda Bay** Region(s): 6 State(s): TX	Divalent Metal Sewerage Systems	PCS
12100402	**West Matagorda Bay** Region(s): 6 State(s): TX	Divalent Metal Industrial Organic Chemicals	PCS
		Divalent Metal Plastic Materials and Synthetics	TRI
12110201	**North Corpus Christi Bay** Region(s): 6 State(s): TX	Divalent Metal Industrial Organic Chemicals	PCS
		Other Industrial Organic Chemicals	TRI
12110204	**San Fernando** Region(s): 6 State(s): TX	Pesticide Sewerage Systems	PCS
12110208	**South Laguna Madre** Region(s): 6 State(s): TX	Divalent Metal Sewerage Systems	PCS
13020101	**Upper Rio Grande** Region(s): 6, 8 State(s): NM, CO	Metal Metal Mining	PCS
13020203	**Rio Grande-Albuquerque** Region(s): 6 State(s): NM	Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
13040100	**Rio Grande-Fort Quitman** Region(s): 6 State(s): TX	Other Petroleum Refining	TRI
14010002	**Blue** Region(s): 8 State(s): CO	Divalent Metal Metal Mining	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
14010003	**Eagle** Region(s): 8 State(s): CO	Divalent Metal Sewerage Systems	PCS
14010004	**Roaring Fork** Region(s): 8 State(s): CO	Divalent Metal Sewerage Systems	PCS
14010005	**Colorado Headwaters-Plateau** Region(s): 8 State(s): UT, CO	Divalent Metal Sewerage Systems	PCS
14030002	**Upper Dolores** Region(s): 8 State(s): CO, UT	Divalent Metal Metal Mining	PCS
14030003	**San Miguel** Region(s): 8 State(s): CO	Divalent Metal Metal Mining	PCS
14050001	**Upper Yampa** Region(s): 8 State(s): CO	Mercury Sewerage Systems	PCS
14060003	**Duchesne** Region(s): 8 State(s): UT	Other Petroleum Refining	TRI
14060007	**Price** Region(s): 8 State(s): UT	Divalent Metal Sewerage Systems	PCS
14080104	**Animas** Region(s): 6, 8 State(s): NM, CO	Divalent Metal Metal Mining	PCS
15010015	**Las Vegas Wash** Region(s): 9 State(s): NV	Divalent Metal Primary Metal Industries	PCS
15020015	**Canyon Diablo** Region(s): 9 State(s): AZ	Divalent Metal Sewerage Systems	PCS
15050100	**Middle Gila** Region(s): 9 State(s): AZ	Divalent Metal Metal Mining	PCS
		Divalent Metal Metal Products and Finishing	TRI
15060103	**Upper Salt** Region(s): 9 State(s): AZ	Metal Sewerage Systems	PCS
15060105	**Tonto** Region(s): 9 State(s): AZ	Divalent Metal Sewerage Systems	PCS
15070101	**Lower Gila-Painted Rock Reservoir** Region(s): 9 State(s): AZ	Divalent Metal Sewerage Systems	PCS
15070102	**Agua Fria** Region(s): 9 State(s): AZ	Divalent Metal National Security	PCS
16020101	**Upper Weber** Region(s): 8 State(s): UT, WY	Divalent Metal Sewerage Systems	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
16020102	**Lower Weber** Region(s): 8 State(s): UT	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Primary Metal Industries	TRI
16020202	**Spanish Fork** Region(s): 8 State(s): UT	Divalent Metal Sewerage Systems	PCS
16020304	**Rush-Tooele Valleys** Region(s): 8 State(s): UT	Metal Sewerage Systems	PCS
16020310	**Great Salt Lake** Region(s): 8 State(s): UT	Divalent Metal Sewerage Systems	PCS
16030004	**San Pitch** Region(s): 8 State(s): UT	Divalent Metal Sewerage Systems	PCS
16030006	**Escalante Desert** Region(s): 9, 8 State(s): NV, UT	Divalent Metal Sewerage Systems	PCS
17010214	**Pend Oreille Lake** Region(s): 10 State(s): ID, WA	Other Lumber and Wood Products	TRI
17010302	**South Fork Coeur D'Alene** Region(s): 10 State(s): ID	Divalent Metal Metal Mining	PCS
17010305	**Upper Spokane** Region(s): 10 State(s): WA, ID	Divalent Metal Primary Metal Industries	PCS
17010307	**Lower Spokane** Region(s): 10 State(s): WA	Mercury Sewerage Systems	PCS
17010308	**Little Spokane** Region(s): 10 State(s): ID, WA	Divalent Metal Primary Metal Industries	TRI
17040204	**Teton** Region(s): 10, 8 State(s): ID, WY	Divalent Metal Sewerage Systems	PCS
17050103	**Middle Snake-Succor** Region(s): 10 State(s): ID, OR	Pesticide Pesticides	TRI
17050114	**Lower Boise** Region(s): 10 State(s): ID	Divalent Metal Sewerage Systems	PCS
		Divalent Metal Metal Products and Finishing	TRI
17060103	**Lower Snake-Asotin** Region(s): 10 State(s): WA, ID, OR	Divalent Metal Metal Products and Finishing	TRI
17060201	**Upper Salmon** Region(s): 10 State(s): ID	Divalent Metal Metal Mining	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
17060306	**Clearwater** Region(s): 10 State(s): ID, WA	Divalent Metal Sewerage Systems	PCS
17070101	**Middle Columbia-Lake Wallula** Region(s): 10 State(s): WA, OR	Other Paper and Allied Products	TRI
17070105	**Middle Columbia-Hood** Region(s): 10 State(s): OR, WA	PAH Primary Metal Industries	PCS
17080003	**Lower Columbia-Clatskanie** Region(s): 10 State(s): WA, OR	Divalent Metal Sewerage Systems Other Paper and Allied Products	PCS TRI
17090008	**Yamhill** Region(s): 10 State(s): OR	Metal Sewerage Systems Other Lumber and Wood Products	PCS TRI
17090009	**Molalla-Pudding** Region(s): 10 State(s): OR	Metal Sewerage Systems	PCS
17090010	**Tualatin** Region(s): 10 State(s): OR	Divalent Metal Sewerage Systems Divalent Metal Metal Products and Finishing	PCS TRI
17090011	**Clackamas** Region(s): 10 State(s): OR	Metal Primary Metal Industries	TRI
17100207	**Siltcoos** Region(s): 10 State(s): OR	Divalent Metal Paper and Allied Products	PCS
17100308	**Middle Rogue** Region(s): 10 State(s): OR	Divalent Metal Metal Products and Finishing	TRI
17110002 (APC)	**Strait Of Georgia** Region(s): 10 State(s): WA	Mercury Paper and Allied Products Divalent Metal Petroleum Refining	PCS TRI
17110011	**Snohomish** Region(s): 10 State(s): WA	Metal Sewerage Systems	PCS
17110012	**Lake Washington** Region(s): 10 State(s): WA	Divalent Metal Metal Products and Finishing	TRI
17110013 (APC)	**Duwamish** Region(s): 10 State(s): WA	Divalent Metal Sewerage Systems Other Metal Products and Finishing	PCS TRI

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
17110014 (APC)	**Puyallup** Region(s): 10 State(s): WA	Divalent Metal Sewerage Systems	PCS
		Other Paper and Allied Products	TRI
17110020	**Dungeness-Elwha** Region(s): 10 State(s): WA	Other Paper and Allied Products	TRI
18010101	**Smith** Region(s): 9, 10 State(s): CA, OR	Divalent Metal Sewerage Systems	PCS
18010102	**Mad-Redwood** Region(s): 9 State(s): CA	Other Paper and Allied Products	TRI
18020103	**Sacramento-Lower Thomes** Region(s): 9 State(s): CA	Divalent Metal Sewerage Systems	PCS
18020106	**Lower Feather** Region(s): 9 State(s): CA	Other Sewerage Systems	PCS
		Metal Lumber and Wood Products	TRI
18020109	**Lower Sacramento** Region(s): 9 State(s): CA	Other Plastic Materials and Synthetics	TRI
18020111	**Lower American** Region(s): 9 State(s): CA	Divalent Metal Sewerage Systems	PCS
18030012 (APC)	**Tulare-Buena Vista Lakes** Region(s): 9 State(s): CA	Metal Sewerage Systems	PCS
18040001	**Middle San Joaquin-Lower Chowchilla** Region(s): 9 State(s): CA	Metal Sewerage Systems	PCS
18040003	**San Joaquin Delta** Region(s): 9 State(s): CA	Divalent Metal Industrial Organic Chemicals	PCS
		Divalent Metal Metal Products and Finishing	TRI
18060002	**Pajaro** Region(s): 9 State(s): CA	Divalent Metal Metal Products and Finishing	TRI
18060010	**Santa Ynez** Region(s): 9 State(s): CA	Metal Sewerage Systems	PCS
18060011	**Alisal-Elkhorn Sloughs** Region(s): 9 State(s): CA	Divalent Metal Public Utilities	PCS
18060012	**Carmel** Region(s): 9 State(s): CA	Divalent Metal Sewerage Systems	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
18060013	**Santa Barbara Coastal** Region(s): 9 State(s): CA	Divalent Metal Sewerage Systems	PCS
18070101	**Ventura** Region(s): 9 State(s): CA	Mercury Sewerage Systems	PCS
18070102	**Santa Clara** Region(s): 9 State(s): CA	Divalent Metal Sewerage Systems	PCS
		Other Plastic Materials and Synthetics	TRI
18070201 (APC)	**Seal Beach** Region(s): 9 State(s): CA	Divalent Metal Public Utilities	PCS
18070202	**San Jacinto** Region(s): 9 State(s): CA	Other Sewerage Systems	PCS
18070204 (APC)	**Newport Bay** Region(s): 9 State(s): CA	Divalent Metal Metal Products and Finishing	TRI
18070301 (APC)	**Aliso-San Onofre** Region(s): 9 State(s): CA	Metal Sewerage Systems	PCS
18070304 (APC)	**San Diego** Region(s): 9 State(s): CA	Divalent Metal Metal Products and Finishing	TRI
18080003	**Honey-Eagle Lakes** Region(s): 9 State(s): NV, CA	Divalent Metal Sewerage Systems	PCS
18090102	**Crowley Lake** Region(s): 9 State(s): CA, NV	Divalent Metal Metal Mining	PCS
18100200	**Salton Sea** Region(s): 9 State(s): CA	Pesticide Sewerage Systems	PCS
19020001	**Kotzebue Sound** Region(s): 10 State(s): AK	Divalent Metal Metal Mining	PCS
19060000	**Southeast Alaska** Region(s): 10 State(s): AK	Divalent Metal Sewerage Systems	PCS
		Other Paper and Allied Products	TRI
21010002	**Cibuco-Guajataca** Region(s): 2 State(s): PR	Divalent Metal Sewerage Systems	PCS
		Metal Metal Products and Finishing	TRI
21010003	**Culebrinas-Guanajibo** Region(s): 2 State(s): PR	Divalent Metal Food and Kindred Products	PCS

Table B-5. (Continued)

Cataloging Unit	Watershed Name/ EPA Region(s) and State(s)	Dominant Chemical Class/ Dominant Industrial Class	Data Source
21020000	**St. John-St. Thomas. U.S. Virgin Islands** Region(s): 2 State(s): VI	Metal Industrial Organic Chemicals	PCS
		Other Petroleum Refining	TRI

Appendix C

Detailed Analyses of Industrial Categories

Table C-1. Load Scores from TRI by Industrial Category and Chemical (for Load Scores greater than 0)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Food and Kindred Products				
Dichloroethane, 1,2-	1	1,804	3.2E+01	2
Lead	1	875	2.0E+01	2
Nickel	14	1,909	1.9E+02	16
Furniture and Fixtures				
Nickel	7	439	4.3E+01	6
Toluene	9	942	2.4E+00	1
Xylenes	11	725	1.2E+02	12
Industrial Inorganic Chemicals				
Acrylonitrile	3	382	1.8E+01	3
Anthracene	2	172	9.5E+01	4
Antimony	2	2,385	6.0E+01	2
Benzene	6	1,082	1.4E+01	2
Chlorobenzene	5	2,922	5.8E+01	3
Chromium	3	364	5.1E+00	2
Dichlorobenzene, 1,2-	3	1,129	9.7E+01	5
Dichlorobenzene, 1,3-	1	117	2.2E+00	1
Dichlorobenzene, 1,4-	1	1,080	9.0E+01	2
Dichloroethane, 1,2-	6	4,244	7.6E+01	9
Dichloropropane, 1,2-	2	940	2.1E+02	5
Hexachlorobenzene	2	390	1.3E+03	6
Hexachlorobutadiene	3	1,174	2.2E+02	5
Hexachloroethane	1	290	1.7E+01	2
Mercury	12	268	1.9E+03	29
Naphthalene	7	3,035	4.2E+01	6
Nickel	7	592	5.7E+01	6
Silver	1	85	1.2E+02	3
Tetrachloroethane, 1,1,2,2-	3	2,927	8.8E+02	7
Tetrachloroethene	5	8,306	5.4E+02	10
Tetrachloromethane	7	937	1.2E+02	6
Trichloroethane, 1,1,1-	3	58	7.5E+00	2
Trichloroethane, 1,1,2-	5	680	1.4E+02	7
Trichloroethene	3	2,925	5.0E+01	2
Trichloromethane	11	20,092	2.4E+01	3
Xylenes	2	271	4.3E+01	2
Zinc	2	313	3.8E+00	1
Industrial Organic Chemicals				
Acrylonitrile	11	33,140	1.6E+03	11
Anthracene	7	138	7.6E+01	6
Antimony	1	2,089	5.2E+01	2
Benzene	47	2,268	2.9E+01	4

Table C-1. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Biphenyl	9	72,524	1.9E+02	7
Bis(2-ethylhexyl) phthalate	6	648	1.7E+01	2
Chlordane	1	28	1.4E+04	5
Chlorobenzene	15	901	1.8E+01	8
Chromium	3	915	1.3E+01	2
Copper	8	5,474	1.0E+02	10
Cresol, m-	7	2,820	3.9E+01	4
Cresol, o-	3	10,235	3.6E+01	2
Cresol, p-	8	217,405	1.4E+01	2
Cresols	10	575	8.1E+00	2
Dichlorobenzene, 1,2-	6	957	8.2E+01	8
Dichlorobenzene, 1,4-	3	259	2.1E+01	4
Dichloroethane, 1,2-	11	1,023	1.8E+01	5
Dichloropropane, 1,2-	2	72	1.6E+01	3
Diethyl phthalate	2	64	4.5E+00	1
Dimethyl phthalate	6	29,903	5.1E+02	6
Dimethylphenol, 2,4-	1	80	1.6E+00	1
Heptachlor	1	13	7.3E+01	2
Hexachlorobenzene	1	80	2.7E+02	3
Hexachlorobutadiene	1	30	5.7E+00	1
Naphthalene	16	1,286	1.8E+01	3
Nickel	8	9,161	8.9E+02	14
Phenol	62	359,287	4.0E+02	21
Silver	1	62	8.7E+01	2
Tetrachloroethene	10	599	3.9E+01	7
Tetrachloromethane	10	668	8.7E+01	9
Toluene	74	51,751	1.3E+02	12
Trichloroethane, 1,1,1-	4	41	5.3E+00	1
Trichloroethane, 1,1,2-	5	449	9.0E+01	5
Trichloromethane	14	2,745	3.3E+00	1
Xylene, o-	11	3,594	5.4E+02	10
Xylenes	53	59,284	9.5E+03	56
Leather and Leather Products				
Chromium	10	3,009	4.2E+01	8
Xylenes	2	263	4.2E+01	4
Lumber and Wood Products				
Arsenic	22	1,455	1.0E+02	12
Chromium	20	1,781	2.5E+01	6
Copper	20	1,201	2.3E+01	4
Pentachlorophenol	22	2,813	2.2E+03	38
Phenol	4	3,288	3.6E+00	1
Xylenes	4	21	3.3E+00	2
Metal Products and Finishing				

Table C-1. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Acrylonitrile	1	250	1.2E+01	2
Antimony	21	1,436	3.6E+01	5
Arsenic	2	79	5.6E+00	1
Bis(2-ethylhexyl) phthalate	8	1,363	3.7E+01	6
Cadmium	17	568	3.0E+02	15
Chromium	376	21,284	3.0E+02	38
Copper	694	41,748	7.9E+02	241
Cresol, m-	1	220	3.1E+00	1
Cresols	1	800	1.1E+01	2
Di-n-butyl phthalate	2	3,488	1.9E+01	2
Dichloroethane, 1,2-	2	450	8.1E+00	2
Dichloromethane	43	26,702	6.4E+00	2
Dichloropropane, 1,2-	1	3,500	7.7E+02	3
Diethyl phthalate	5	60,500	4.3E+03	9
Dimethyl phthalate	3	131	2.2E+00	2
Lead	171	7,531	1.7E+02	43
Mercury	2	3	1.8E+01	2
Naphthalene	1	255	3.6E+00	1
Nickel	462	23,005	2.2E+03	242
Silver	14	142	2.0E+02	12
Tetrachloroethene	33	997	6.5E+01	13
Toluene	80	27,477	6.9E+01	7
Trichlorobenzene, 1,2,4-	1	353	1.5E+00	1
Trichloroethane, 1,1,1-	115	10,690	1.4E+03	39
Trichloroethane, 1,1,2-	1	1,300	2.6E+02	3
Trichloroethene	90	6,633	1.1E+02	26
Xylene, p-	1	200	3.2E+01	2
Xylenes	95	12,155	1.9E+03	68
Zinc	59	25,009	3.0E+02	16
Nonclassifiable				
Anthracene	1	25	1.3E+01	2
Benzene	1	394	5.1E+00	1
Copper	3	253	4.8E+00	1
Silver	1	1	1.8E+00	1
Xylenes	1	63	1.0E+01	2
Other Chemical Products				
Acrylonitrile	4	142	6.7E+00	1
Antimony	1	63	1.6E+00	1
Biphenyl	12	1,647	4.3E+00	1
Bis(2-ethylhexyl) phthalate	2	88	2.4E+00	1
Chromium	4	169	2.4E+00	1
Copper	6	192	3.6E+00	1
Di-n-butyl phthalate	14	768	4.2E+00	1

Table C-1. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Dichlorobenzene, 1,2-	3	129	1.1E+01	2
Dichlorobenzene, 1,4-	2	833	6.9E+01	2
Dichloroethane, 1,2-	3	733	1.3E+01	2
Diethyl phthalate	21	770	5.5E+01	14
Dimethyl phthalate	3	66	1.1E+00	1
Dimethylphenol, 2,4-	1	63	1.3E+00	1
Naphthalene	19	1,105	1.5E+01	2
Nickel	7	163	1.6E+01	4
Tetrachloroethene	14	272	1.8E+01	4
Toluene	59	9,507	2.4E+01	4
Trichlorobenzene, 1,2,4-	4	893	3.7E+00	2
Trichloroethane, 1,1,1-	45	7,598	9.9E+02	26
Trichloroethene	4	66	1.1E+00	1
Xylenes	70	20,364	3.3E+03	75
Other Trade and Services				
Copper	2	68	1.3E+00	1
Nickel	2	68	6.5E+00	1
Xylene, m-	1	33	5.2E+00	1
Xylene, o-	1	16	2.3E+00	1
Xylene, p-	1	33	5.2E+00	1
Paper and Allied Products				
Biphenyl	2	680	1.8E+00	1
Butyl benzyl phthalate	3	1,846	2.8E+00	1
Copper	3	64	1.2E+00	1
Diethyl phthalate	1	128	9.1E+00	1
Naphthalene	4	2,933	4.1E+01	4
Phenol	53	102,227	1.1E+02	16
Toluene	16	4,815	1.2E+01	5
Trichloroethane, 1,1,1-	2	68	8.8E+00	1
Trichloroethene	1	158	2.7E+00	1
Trichloromethane	98	519,845	6.2E+02	81
Xylenes	15	1,781	2.9E+02	18
Pesticides				
Arsenic	1	63	4.4E+00	1
BHC, gamma- \ Lindane	2	2	3.2E+02	5
Copper	1	100	1.9E+00	1
Dichloroethane, 1,2-	3	394	7.1E+00	2
Hexachlorobenzene	2	69	2.3E+02	5
Methoxychlor	1	5	2.9E+02	3
Naphthalene	4	374	5.2E+00	1
Pentachlorophenol	1	11	8.7E+00	1
Tetrachloromethane	2	15	2.0E+00	1
Toluene	5	1,146	2.9E+00	1

Table C-1. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Xylene, m-	1	17	2.7E+00	1
Xylene, o-	2	258	3.9E+01	3
Xylenes	6	277	4.4E+01	5
Petroleum and Coal Products				
Toluene	8	18,322	4.6E+01	4
Xylene, m-	1	9	1.4E+00	1
Xylenes	4	137	2.2E+01	4
Petroleum Refining				
Anthracene	5	147	8.1E+01	6
Arsenic	2	68	4.8E+00	1
Benzene	106	71,266	9.3E+02	65
Chromium	10	4,737	6.6E+01	9
Copper	3	447	8.5E+00	1
Cresols	11	12,308	1.7E+02	11
Dichloropropane, 1,2-	1	211	4.6E+01	2
Dimethylphenol, 2,4-	2	1,363	2.7E+01	3
Lead	2	299	6.9E+00	2
Naphthalene	40	10,252	1.4E+02	19
Nickel	7	5,775	5.6E+02	14
Phenol	54	313,317	3.4E+02	27
Tetrachloromethane	4	170	2.2E+01	5
Toluene	101	101,336	2.5E+02	33
Trichloroethane, 1,1,1-	10	540	7.0E+01	11
Xylene, m-	7	9,178	1.5E+03	15
Xylene, o-	8	2,646	4.0E+02	15
Xylene, p-	7	8,443	1.4E+03	15
Xylenes	89	74,029	1.2E+04	137
Pharmaceuticals				
Benzene	1	18,750	2.4E+02	3
Bis(2-ethylhexyl) phthalate	2	135	3.6E+00	2
Chlorobenzene	2	1,641	3.3E+01	3
Dichlorobenzene, 1,2-	2	7,626	6.6E+02	6
Dichlorobenzene, 1,3-	1	375	7.1E+00	1
Dichloroethane, 1,2-	4	1,381	2.5E+01	5
Dichloromethane	45	237,342	5.7E+01	9
Diethyl phthalate	1	2,834	2.0E+02	3
Dimethyl phthalate	1	290	4.9E+00	1
Ethylbenzene	3	4,146	1.2E+00	1
Nickel	1	5,600	5.4E+02	3
Phenol	3	2,523	2.8E+00	1
Tetrachloroethane, 1,1,2,2-	1	38	1.1E+01	2
Toluene	38	131,816	3.3E+02	20
Trichloroethene	1	63	1.1E+00	1

Table C-1. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Trichloromethane	10	58,289	7.0E+01	5
Xylene, m-	1	1,900	3.0E+02	3
Xylenes	9	16,318	2.6E+03	16
Plastic Materials and Synthetics				
Acrylonitrile	25	19,634	9.2E+02	20
Anthracene	1	250	1.4E+02	3
Antimony	1	250	6.3E+00	1
Benzene	8	601	7.8E+00	2
Biphenyl	12	2,249	5.8E+00	1
Bis(2-ethylhexyl) phthalate	3	382	1.0E+01	1
Cadmium	1	59	3.1E+01	2
Chlorobenzene	4	92	1.8E+00	1
Chromium	2	204	2.9E+00	1
Copper	4	1,690	3.2E+01	5
Dichlorobenzene, 1,2-	1	29	2.5E+00	1
Dichloroethane, 1,2-	2	243	4.4E+00	1
Dichloropropane, 1,2-	2	90	2.0E+01	3
Diethyl phthalate	1	63	4.5E+00	1
Dimethyl phthalate	3	732	1.2E+01	2
Naphthalene	12	402	5.6E+00	1
Nickel	4	780	7.6E+01	7
Phenol	27	150,761	1.7E+02	10
Tetrachloroethene	1	26	1.7E+00	1
Tetrachloromethane	3	82	1.1E+01	2
Toluene	44	19,144	4.8E+01	5
Trichloroethane, 1,1,1-	4	4,851	6.3E+02	6
Xylene, o-	5	229	3.4E+01	5
Xylenes	35	1,644	2.6E+02	27
Primary Metal Industries				
Anthracene	1	9	5.0E+00	1
Antimony	20	6,479	1.6E+02	11
Arsenic	13	66	4.7E+00	1
Benzene	11	1,305	1.7E+01	5
Cadmium	11	324	1.7E+02	10
Chromium	141	10,695	1.5E+02	29
Copper	310	27,911	5.3E+02	112
Cresols	5	573	8.0E+00	2
Lead	118	21,956	5.0E+02	58
Naphthalene	14	2,538	3.6E+01	7
Nickel	147	15,016	1.5E+03	98
Phenol	40	124,478	1.4E+02	16
Polychlorinated biphenyls	1	66	1.9E+04	5
Silver	13	512	7.2E+02	14

Table C-1. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Tetrachloroethene	2	541	3.5E+01	2
Trichloroethane, 1,1,1-	12	1,846	2.4E+02	5
Trichloroethene	4	6,776	1.2E+02	3
Xylenes	6	652	1.0E+02	7
Zinc	55	66,313	8.0E+02	30
Printing and Publishing				
Copper	17	327	6.2E+00	4
Toluene	26	2,847	7.1E+00	2
Xylenes	10	115	1.8E+01	2
Rubber and Plastics Products				
Bis(2-ethylhexyl) phthalate	28	3,609	9.7E+01	14
Di-n-butyl phthalate	4	1,382	7.6E+00	1
Diethyl phthalate	2	11,508	8.2E+02	3
Dimethyl phthalate	2	1,978	3.4E+01	3
Toluene	16	3,823	9.6E+00	3
Trichloroethane, 1,1,1-	3	70	9.0E+00	1
Xylenes	6	63	1.0E+01	2
Zinc	3	449	5.4E+00	2
Stone, Clay, and Glass Products				
Bis(2-ethylhexyl) phthalate	2	265	7.2E+00	2
Copper	7	283	5.4E+00	1
Lead	13	104	2.4E+00	1
Nickel	4	102	9.9E+00	2
Phenol	21	18,931	2.1E+01	4
Xylenes	4	1,205	1.9E+02	6
Zinc	2	183	2.2E+00	1
Textile Products				
Antimony	2	5,161	1.3E+02	4
Biphenyl	22	125,681	3.3E+02	28
Bis(2-ethylhexyl) phthalate	2	1,327	3.6E+01	2
Copper	3	950	1.8E+01	3
Lead	2	751	1.7E+01	2
Naphthalene	2	15,006	2.1E+02	3
Nickel	1	323	3.1E+01	2
Tetrachloroethene	9	27,152	1.8E+03	21
Trichlorobenzene, 1,2,4-	14	42,232	1.8E+02	14
Trichloroethane, 1,1,1-	1	250	3.3E+01	2
Xylenes	5	27,058	4.3E+03	15

Table C-2. Load Scores from PCS by Industrial Category and Chemical (for Load Scores greater than 0)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Coal Mining				
Cadmium	1	5	2.4E+00	1
Mercury	2	<0.5	2.8E+00	1
Nickel	1	401	3.9E+01	2
Silver	2	4	6.0E+00	1
Zinc	2	150	1.8E+00	1
Construction				
Xylenes	1	31	5.0E+00	1
Food and Kindred Products				
Cadmium	5	31	1.6E+01	2
Chromium	14	191	2.7E+00	1
Copper	18	4,751	9.0E+01	7
Dichloromethane	1	6,993	1.7E+00	1
Lead	9	578	1.3E+01	2
Mercury	4	9	6.2E+01	6
Nickel	3	1,757	1.7E+02	5
Silver	3	3	4.7E+00	1
Tetrachloroethene	1	21	1.3E+00	1
Trichloroethene	2	2,011	3.4E+01	2
Trichloromethane	3	10,244	1.2E+01	2
Zinc	38	13,731	1.6E+02	17
Furniture and Fixtures				
Cadmium	3	5	2.8E+00	1
Chromium	3	127	1.8E+00	1
Copper	7	168	3.2E+00	2
Nickel	6	486	4.7E+01	3
Silver	1	21	2.9E+01	2
Industrial Inorganic Chemicals				
Acenaphthene	1	59	2.9E+00	1
Acenaphthylene	1	105	1.3E+01	2
Anthracene	1	47	2.6E+01	2
Antimony	3	933	2.3E+01	2
Arsenic	14	2,176	1.5E+02	7
Benzo(a)anthracene	1	12	1.3E+02	3
Benzo(a)pyrene	1	3	1.1E+02	3
Benzo(b)fluoranthene	1	4	1.9E+01	2
Benzo(k)fluoranthene	1	2	8.0E+00	1
Cadmium	15	341	1.8E+02	9
Chromium	38	21,080	3.0E+02	20
Chrysene	1	9	9.5E+00	1
Copper	56	113,341	2.2E+03	26

Table C-2. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Dichloroethane, 1,2-	4	787	1.4E+01	2
Dichloromethane	4	18,041	4.3E+00	1
Fluoranthene	1	28	3.3E+00	1
Fluorene	1	105	1.3E+01	2
Hexachlorobenzene	3	8	2.7E+01	3
Lead	33	1,914	4.4E+01	11
Mercury	21	763	5.3E+03	43
Methoxychlor	1	99	5.7E+03	4
Nickel	42	11,516	1.1E+03	51
Phenanthrene	1	72	1.1E+01	2
Polychlorinated biphenyls	1	<0.5	6.8E+01	2
Pyrene	1	81	1.1E+02	3
Silver	6	9	1.3E+01	2
Tetrachloroethene	4	28	1.8E+00	1
Tetrachloromethane	4	2,150	2.8E+02	6
Trichloroethane, 1,1,1-	4	72	9.3E+00	1
Trichloromethane	10	39,034	4.7E+01	2
Zinc	61	127,119	1.5E+03	43
Industrial Organic Chemicals				
Acenaphthene	12	168	8.2E+00	3
Acenaphthylene	10	151	1.8E+01	4
Acrylonitrile	13	786	3.7E+01	6
Anthracene	11	145	8.0E+01	10
Antimony	8	175,245	4.4E+03	11
Arsenic	9	278	2.0E+01	4
Benzene	33	3,670	4.8E+01	3
Benzo(a)anthracene	12	175	1.9E+03	21
Benzo(a)pyrene	12	143	6.0E+03	27
Benzo(b)fluoranthene	12	187	9.0E+02	21
Benzo(k)fluoranthene	12	147	6.9E+02	16
Bis(2-ethylhexyl) phthalate	26	784	2.1E+01	7
Cadmium	6	312	1.6E+02	5
Chlorobenzene	21	733	1.5E+01	3
Chromium	52	4,988	7.0E+01	17
Chrysene	12	147	1.5E+02	9
Copper	74	44,151	8.4E+02	57
Diazinon \ Spectracide	1	6	5.6E+03	4
Dichlorobenzene, 1,2-	18	1,027	8.8E+01	10
Dichlorobenzene, 1,4-	15	274	2.3E+01	6
Dichlorobenzenes	1	81	7.2E+00	1
Dichloroethane, 1,2-	32	4,786	8.6E+01	12
Dichloropropane, 1,2-	17	915	2.0E+02	15
Diethyl phthalate	13	163	1.2E+01	3
Dimethylphenol, 2,4-	12	204	4.1E+00	1

Table C-2. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Fluoranthene	12	153	1.8E+01	4
Fluorene	12	153	1.8E+01	3
Hexachlorobenzene	16	191	6.5E+02	20
Hexachlorobutadiene	13	314	6.0E+01	6
Hexachloroethane	14	176	1.0E+01	3
Lead	41	9,546	2.2E+02	20
Mercury	15	66	4.6E+02	20
Naphthalene	18	264	3.7E+00	1
Nickel	49	19,682	1.9E+03	67
Pentachlorophenol	1	1	1.0E+00	1
Phenanthrene	15	163	2.5E+01	5
Phenol	33	2,544	2.8E+00	1
Polychlorinated biphenyls	1	<0.5	4.8E+00	1
Pyrene	13	152	2.1E+02	11
Silver	8	38	5.4E+01	6
Tetrachloroethane, 1,1,2,2-	2	235	7.0E+01	3
Tetrachloroethene	24	90,654	5.9E+03	12
Tetrachloromethane	24	172,606	2.2E+04	17
Toxaphene	2	80	3.7E+03	7
Tribromomethane	2	4,444	1.3E+02	3
Trichloroethane, 1,1,1-	20	9,666	1.3E+03	12
Trichloroethane, 1,1,2-	20	367	7.3E+01	14
Trichloroethene	22	464	7.9E+00	2
Trichloromethane	55	390,662	4.7E+02	7
Zinc	88	584,485	7.0E+03	87
Leather and Leather Products				
Chromium	9	5,484	7.7E+01	8
Lead	4	86	2.0E+00	1
Lumber and Wood Products				
Acenaphthene	2	421	2.1E+01	2
Arsenic	7	108	7.7E+00	1
Cadmium	1	8	4.3E+00	1
Copper	8	172	3.3E+00	1
Dimethylphenol, 2,4-	1	287	5.7E+00	1
Fluorene	1	18	2.2E+00	1
Pentachlorophenol	8	959	7.6E+02	4
Zinc	7	5,439	6.5E+01	3
Metal Mining				
Antimony	3	509	1.3E+01	2
Arsenic	18	1,161	8.2E+01	10
Cadmium	41	990	5.2E+02	31
Copper	51	10,885	2.1E+02	18
Lead	40	6,609	1.5E+02	17

Table C-2. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Mercury	24	23	1.6E+02	13
Nickel	8	412	4.0E+01	5
Silver	12	36	5.0E+01	6
Zinc	57	289,600	3.5E+03	52
Metal Products and Finishing				
Antimony	9	24,174	6.0E+02	5
Arsenic	19	3,911	2.8E+02	12
Benzene	9	2,773	3.6E+01	2
Bis(2-ethylhexyl) phthalate	6	80	2.2E+00	1
Cadmium	124	968	5.0E+02	34
Chromium	218	214,819	3.0E+03	40
Copper	306	276,786	5.3E+03	86
Dichloropropane, 1,2-	1	2,190	4.8E+02	3
Lead	187	35,222	8.1E+02	38
Mercury	15	5	3.3E+01	5
Nickel	212	41,971	4.1E+03	150
Phenol	7	1,465	1.6E+00	1
Polychlorinated biphenyls	8	1,028	3.0E+05	21
PCB-1016	1	<0.5	7.9E+01	2
PCB-1221	1	<0.5	7.9E+01	2
PCB-1232	1	<0.5	7.9E+01	2
PCB-1242	2	3	7.6E+02	5
PCB-1248	2	8	2.4E+03	6
PCB-1254	1	<0.5	7.9E+01	2
PCB-1260	1	<0.5	7.9E+01	2
Silver	87	9,607	1.3E+04	62
Tetrachloroethene	18	949	6.2E+01	7
Tetrachloromethane	1	24	3.1E+00	1
Toluene	17	2,708	6.8E+00	1
Trichloroethane, 1,1,1-	23	318	4.1E+01	5
Trichloroethene	52	13,803	2.3E+02	11
Xylenes	8	3,584	5.7E+02	5
Zinc	330	1063404	1.3E+04	127
National Security				
Arsenic	7	3,021	2.1E+02	8
Cadmium	14	290	1.5E+02	13
Chromium	11	5,760	8.1E+01	7
Copper	20	5,551	1.1E+02	11
DDT	1	<0.5	1.0E+01	2
Lead	19	3,284	7.6E+01	10
Mercury	9	97	6.8E+02	9
Nickel	12	490	4.8E+01	11
Pentachlorophenol	1	10	7.6E+00	1

Table C-2. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Polychlorinated biphenyls	1	202	5.9E+04	5
Silver	11	31	4.3E+01	8
Trichloroethene	3	625	1.1E+01	2
Zinc	19	118,295	1.4E+03	17
Nonclassifiable				
Antimony	3	59	1.5E+00	1
Arsenic	12	186	1.3E+01	3
Benzene	63	1,368	1.8E+01	4
Cadmium	24	253	1.3E+02	10
Chromium	27	425	5.9E+00	2
Copper	50	1,694	3.2E+01	7
Hexachlorobutadiene	1	15	2.8E+00	1
Lead	65	2,970	6.8E+01	7
Mercury	13	5	3.2E+01	4
Nickel	23	614	6.0E+01	8
Polychlorinated biphenyls	1	1	2.9E+02	3
Silver	10	27	3.7E+01	6
Toluene	33	8,203	2.1E+01	2
Trichloroethene	34	11,986	2.0E+02	8
Xylenes	28	216	3.5E+01	5
Zinc	61	21,495	2.6E+02	16
Nonmetallic Mineral Mining				
Arsenic	2	29	2.0E+00	1
Cadmium	3	191	9.9E+01	5
Copper	3	431	8.2E+00	2
Lead	3	267	6.1E+00	2
Mercury	5	137	9.6E+02	3
Nickel	1	26	2.5E+00	1
Xylenes	1	14	2.3E+00	1
Zinc	7	3,311	4.0E+01	4
Oil and Gas Extraction				
Nickel	1	16	1.6E+00	1
Other Chemical Products				
Antimony	2	331	8.3E+00	1
Arsenic	7	514	3.6E+01	5
Benzene	3	710	9.2E+00	1
Cadmium	13	980	5.1E+02	11
Chromium	12	808	1.1E+01	4
Copper	22	960	1.8E+01	8
Dichloropropane, 1,2-	1	57	1.3E+01	2
DDT	1	1	2.0E+02	3
Lead	20	1,314	3.0E+01	4

Table C-2. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Mercury	8	6	4.5E+01	5
Nickel	9	3,134	3.0E+02	9
Silver	4	88	1.2E+02	5
Tetrachloroethene	2	260	1.7E+01	2
Toluene	9	1,250	3.1E+00	1
Trichloroethene	3	175	3.0E+00	1
Xylenes	2	8	1.2E+00	1
Zinc	35	20,321	2.4E+02	20
Other Trade and Services				
Anthracene	4	3	1.6E+00	1
Arsenic	14	89	6.3E+00	3
Benzene	234	58,579	7.6E+02	11
Benzo(a)anthracene	2	1	6.3E+00	1
Benzo(a)pyrene	2	1	2.3E+01	2
Benzo(b)fluoranthene	2	1	3.9E+00	2
Benzo(k)fluoranthene	2	1	3.5E+00	1
Cadmium	30	6,669	3.5E+03	11
Chromium	30	786	1.1E+01	3
Copper	70	1,878	3.6E+01	9
Dibenzo(a,h)anthracene	1	<0.5	2.0E+01	2
Dieldrin	2	<0.5	1.1E+02	4
Endosulfan, alpha-	2	1	3.9E+01	2
Hexachlorobenzene	2	1	2.0E+00	1
Indeno(1,2,3-cd)pyrene	1	<0.5	1.1E+00	1
Lead	184	2,954	6.8E+01	10
Mercury	14	4	2.8E+01	5
Nickel	24	288	2.8E+01	8
Pentachlorophenol	2	9	6.9E+00	1
Polychlorinated biphenyls	4	14	4.0E+03	9
Pyrene	4	18	2.5E+01	3
PCB-1016	1	<0.5	3.8E+00	1
PCB-1221	1	<0.5	5.8E+00	1
PCB-1232	1	<0.5	3.8E+00	1
PCB-1242	1	<0.5	3.8E+00	1
PCB-1248	1	<0.5	3.8E+00	1
PCB-1254	1	<0.5	3.8E+00	1
PCB-1260	1	<0.5	2.9E+00	1
Silver	15	107	1.5E+02	8
Toluene	183	8,023	2.0E+01	4
Trichloroethane, 1,1,1-	12	21	2.7E+00	1
Xylenes	173	3,220	5.2E+02	36
Zinc	98	15,363	1.8E+02	22
Paper and Allied Products				

Table C-2. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Antimony	2	65	1.6E+00	1
Arsenic	4	199	1.4E+01	2
Bis(2-ethylhexyl) phthalate	2	158	4.3E+00	1
Cadmium	11	232	1.2E+02	9
Chromium	10	1,432	2.0E+01	4
Copper	50	11,322	2.2E+02	35
Dichloropropane, 1,2-	1	5	1.0E+00	1
Lead	22	953	2.2E+01	5
Mercury	6	132	9.2E+02	6
Nickel	7	70	6.8E+00	4
Pentachlorophenol	2	2	1.3E+00	1
Polychlorinated biphenyls	1	<0.5	1.3E+02	3
PCB-1242	2	<0.5	1.0E+01	2
Silver	5	30	4.2E+01	5
Toluene	4	3,095	7.7E+00	1
Trichloromethane	15	7,047	8.5E+00	1
Zinc	65	491,774	5.9E+03	66
Pesticides				
Arsenic	4	86	6.1E+00	2
Chromium	5	652	9.1E+00	2
Copper	4	737	1.4E+01	2
DCPA/Dacthal	1	286	2.6E+00	1
Mercury	1	8	5.7E+01	2
Nickel	3	479	4.7E+01	5
Zinc	9	9,491	1.1E+02	9
Petroleum and Coal Products				
Toluene	3	4,997	1.2E+01	2
Xylenes	2	9,528	1.5E+03	4
Petroleum Refining				
Arsenic	16	4,459	3.2E+02	17
Benzene	19	2,011	2.6E+01	4
Bis(2-ethylhexyl) phthalate	2	77	2.1E+00	1
Cadmium	10	75	3.9E+01	10
Chromium	92	15,045	2.1E+02	41
Copper	22	6,979	1.3E+02	7
Lead	22	1,537	3.5E+01	5
Mercury	12	15	1.0E+02	16
Naphthalene	2	4,299	6.0E+01	2
Nickel	13	2,806	2.7E+02	18
Silver	7	20	2.8E+01	5
Toluene	11	3,014	7.5E+00	1
Trichloroethane, 1,1,2-	1	5	1.0E+00	1
Trichloroethene	1	1,457	2.5E+01	2

Table C-2. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Xylenes	12	169	2.7E+01	4
Zinc	34	604,273	7.3E+03	34
Pharmaceuticals				
Arsenic	5	1,179	8.4E+01	2
Benzene	1	273	3.5E+00	1
Cadmium	5	10	5.0E+00	1
Copper	19	606	1.2E+01	3
Dichloromethane	8	28,385	6.8E+00	1
Lead	8	4,904	1.1E+02	3
Mercury	8	1	9.3E+00	4
Nickel	4	475	4.6E+01	4
Silver	3	1	2.0E+00	1
Toluene	2	29,927	7.5E+01	2
Trichloroethane, 1,1,2-	1	98	2.0E+01	2
Trichloromethane	8	4,336	5.2E+00	1
Zinc	27	33,673	4.0E+02	11
Plastic Materials and Synthetics				
Acenaphthene	5	65	3.2E+00	1
Acenaphthylene	5	74	8.9E+00	3
Acrylonitrile	14	678	3.2E+01	4
Anthracene	5	65	3.6E+01	6
Antimony	6	454	1.1E+01	4
Arsenic	12	243	1.7E+01	5
Benzene	15	428	5.6E+00	1
Benzo(a)anthracene	6	91	1.0E+03	15
Benzo(a)pyrene	6	77	3.2E+03	18
Benzo(b)fluoranthene	6	85	4.1E+02	12
Benzo(k)fluoranthene	6	75	3.5E+02	12
Bis(2-ethylhexyl) phthalate	22	2,977	8.0E+01	9
Cadmium	6	148	7.7E+01	6
Chromium	38	5,889	8.2E+01	13
Chrysene	6	75	7.5E+01	9
Copper	48	14,056	2.7E+02	24
Dichlorobenzene, 1,2-	9	236	2.0E+01	5
Dichlorobenzene, 1,4-	9	105	8.7E+00	4
Dichloroethane, 1,2-	11	303	5.5E+00	1
Dichloromethane	20	9,838	2.4E+00	1
Dichloropropane, 1,2-	7	341	7.5E+01	5
Diethyl phthalate	6	73	5.2E+00	2
Fluoranthene	6	63	7.5E+00	3
Fluorene	6	61	7.4E+00	2
Hexachlorobenzene	7	73	2.5E+02	13
Hexachlorobutadiene	6	70	1.3E+01	5

Table C-2. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Hexachloroethane	6	142	8.4E+00	2
Lead	24	868	2.0E+01	5
Mercury	7	6	4.2E+01	9
Nickel	19	9,642	9.4E+02	21
Pentachlorophenol	1	24	1.9E+01	2
Phenanthrene	6	88	1.3E+01	3
Polychlorinated biphenyls	1	3	8.3E+02	3
Pyrene	6	68	9.6E+01	9
Silver	3	38	5.3E+01	3
Tetrachloroethene	8	139	9.0E+00	5
Tetrachloromethane	9	66	8.6E+00	4
Toluene	23	16,582	4.1E+01	5
Trichloroethane, 1,1,1-	9	153	2.0E+01	6
Trichloroethane, 1,1,2-	8	125	2.5E+01	5
Xylenes	6	1,916	3.1E+02	7
Zinc	69	187,467	2.2E+03	55
'rimary Metal Industries				
Anthracene	2	23	1.3E+01	2
Antimony	16	588	1.5E+01	4
Arsenic	22	210	1.5E+01	5
Benzo(a)anthracene	2	7	7.6E+01	2
Benzo(a)pyrene	23	196	8.2E+03	50
Benzo(b)fluoranthene	2	8	4.1E+01	2
Bis(2-ethylhexyl) phthalate	4	1,894	5.1E+01	3
Cadmium	50	1,003	5.2E+02	32
Chromium	91	12,579	1.8E+02	27
Chrysene	2	6	6.1E+00	1
Copper	133	63,414	1.2E+03	57
Fluoranthene	4	63	7.6E+00	2
Fluorene	2	9	1.1E+00	1
Lead	144	29,201	6.7E+02	55
Mercury	8	439	3.1E+03	7
Naphthalene	15	230	3.2E+00	1
Nickel	81	13,925	1.4E+03	81
Phenanthrene	4	25,929	3.9E+03	5
Polychlorinated biphenyls	6	7	2.0E+03	13
Pyrene	2	23	3.2E+01	2
PCB-1242	1	<0.5	1.1E+00	1
PCB-1248	1	<0.5	5.4E+00	1
PCB-1260	1	<0.5	1.4E+00	1
Silver	18	59	8.2E+01	11
Tetrachloroethene	8	314	2.0E+01	4
Zinc	197	312,772	3.8E+03	143

Table C-2. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Printing and Publishing				
Chromium	2	104	1.4E+00	1
Copper	3	426	8.1E+00	2
Lead	2	46	1.1E+00	1
Silver	3	50	7.0E+01	3
Zinc	3	208	2.5E+00	1
Public Utilities				
Antimony	11	1,458	3.6E+01	6
Arsenic	89	41,356	2.9E+03	77
Cadmium	62	9,389	4.9E+03	46
Chromium	96	11,924	1.7E+02	23
Copper	351	645,527	1.2E+04	198
Lead	204	61,056	1.4E+03	72
Mercury	42	9,980	7.0E+04	45
Nickel	98	75,896	7.4E+03	92
Pentachlorophenol	1	3	2.6E+00	1
Polychlorinated biphenyls	14	16	4.5E+03	21
PCB-1254	1	<0.5	5.1E+01	2
Silver	26	3,081	4.3E+03	22
Tetrachloroethene	10	42	2.7E+00	1
Tetrachloromethane	2	15,857	2.1E+03	4
Trichloromethane	7	1,993	2.4E+00	1
Xylenes	29	101	1.6E+01	3
Zinc	309	1445177	1.7E+04	203
Rubber and Plastics Products				
Antimony	1	4,363	1.1E+02	3
Arsenic	3	32	2.3E+00	1
Cadmium	5	18	9.5E+00	1
Copper	17	1,320	2.5E+01	3
Dichloromethane	3	89,604	2.2E+01	2
Lead	11	255	5.9E+00	1
Mercury	3	4,167	2.9E+04	6
Nickel	4	29	2.8E+00	1
Polychlorinated biphenyls	2	10	2.8E+03	4
Pyrene	1	1	1.1E+00	1
PCB-1242	1	1	1.8E+02	3
PCB-1248	1	<0.5	2.6E+01	2
Silver	1	8	1.1E+01	2
Zinc	28	18,044	2.2E+02	11
Sewerage Systems				
Acenaphthene	11	57	2.8E+00	1
Acenaphthylene	10	55	6.6E+00	3

Table C-2. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Acrylonitrile	12	320	1.5E+01	4
Aldrin	12	2	7.3E+02	15
Anthracene	9	56	3.1E+01	6
Antimony	66	47,292	1.2E+03	49
Arsenic	225	443,928	3.2E+04	186
Benzene	20	18,571	2.4E+02	7
Benzo(a)anthracene	11	62	6.9E+02	19
Benzo(a)pyrene	10	58	2.4E+03	23
Benzo(b)fluoranthene	11	138	6.6E+02	17
Benzo(ghi)perylene	10	64	5.1E+01	8
Benzo(k)fluoranthene	10	58	2.7E+02	14
Bis(2-ethylhexyl) phthalate	95	35,839	9.7E+02	53
Bromophenyl phenyl ether, 4-	10	57	4.4E+00	1
BHC, alpha-	9	30	7.9E+03	13
BHC, beta-	8	2	4.5E+02	11
BHC, delta-	8	1	1.4E+01	2
BHC, gamma- \ Lindane	30	140	2.9E+04	65
Cadmium	716	167,046	8.7E+04	675
Chlordane	17	57	2.9E+04	44
Chlorobenzene	13	412	8.2E+00	2
Chromium	619	218,172	3.1E+03	265
Chrysene	10	57	5.7E+01	8
Copper	1393	1568237	3.0E+04	983
Di-n-butyl phthalate	34	1,715	9.4E+00	2
Dibenzo(a,h)anthracene	10	58	1.3E+04	32
Dibromochloromethane	32	10,298	2.2E+02	13
Dichlorobenzene, 1,2-	12	197	1.7E+01	4
Dichlorobenzene, 1,4-	21	1,110	9.2E+01	8
Dichlorobenzenes	2	142	1.3E+01	2
Dichloroethane, 1,2-	19	2,701	4.9E+01	5
Dichloropropane, 1,2-	10	32	7.0E+00	4
Dieldrin	10	377	6.0E+05	24
Diethyl phthalate	19	4,138	2.9E+02	8
DDD	10	70	1.8E+04	18
DDE	10	1,145	3.9E+05	17
DDT	11	390	8.2E+04	25
Endosulfan mixed isomers	10	5	1.7E+01	3
Endosulfan, alpha-	9	2	5.8E+01	5
Endosulfan, beta-	8	2	1.3E+01	2
Endrin	18	867	8.1E+02	6
Fluoranthene	11	60	7.2E+00	3
Fluorene	11	75	9.0E+00	4
Heptachlor	13	56	3.2E+02	7
Heptachlor epoxide	9	2	6.3E+02	12

Table C-2. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Hexachlorobenzene	11	54	1.8E+02	11
Hexachlorobutadiene	10	55	1.0E+01	4
Hexachloroethane	10	58	3.4E+00	1
Indeno(1,2,3-cd)pyrene	11	61	8.0E+02	20
Lead	940	486,751	1.1E+04	429
Mercury	531	12,730	8.9E+04	609
Naphthalene	11	279	3.9E+00	1
Nickel	690	830,784	8.1E+04	855
Nitrosodiphenylamine, N-	11	2,329	1.0E+03	9
Pentachlorophenol	16	387	3.1E+02	16
Phenanthrene	12	103	1.5E+01	5
Phenol	25	5,247	5.8E+00	1
Polychlorinated biphenyls	21	330	9.6E+04	61
Pyrene	13	107	1.5E+02	12
PCB-1016	9	3	7.4E+02	18
PCB-1221	8	3	8.8E+02	15
PCB-1232	8	2	6.3E+02	15
PCB-1242	8	2	6.3E+02	15
PCB-1248	8	2	6.3E+02	15
PCB-1254	8	2	6.3E+02	15
PCB-1260	8	2	6.3E+02	15
Silver	446	522,139	7.3E+05	742
Tetrachloroethane, 1,1,2,2-	11	379	1.1E+02	7
Tetrachloroethene	59	24,566	1.6E+03	55
Tetrachloromethane	15	162	2.1E+01	5
Toluene	58	76,290	1.9E+02	11
Toxaphene	12	16	7.4E+02	22
Tribromomethane	16	167	5.0E+00	1
Trichloroethane, 1,1,1-	33	1,816	2.4E+02	18
Trichloroethane, 1,1,2-	11	100	2.0E+01	5
Trichloroethene	28	2,418	4.1E+01	6
Trichloromethane	154	547,417	6.6E+02	31
Xylenes	7	24	3.8E+00	1
Zinc	1415	4576125	5.5E+04	1349
Stone, Clay, and Glass Products				
Arsenic	3	354	2.5E+01	2
Cadmium	3	3	1.3E+00	1
Chromium	10	200	2.8E+00	1
Copper	13	177	3.4E+00	1
Lead	13	4,114	9.5E+01	3
Silver	2	39	5.4E+01	2
Zinc	17	926	1.1E+01	3
Textile Products				

Table C-2. (Continued)

Industrial Category/ Chemical Name	Number of Facilities	Raw Load (lb/yr)	Adjusted Load	Load Score
Arsenic	3	641	4.6E+01	2
Bis(2-ethylhexyl) phthalate	1	47	1.3E+00	1
Cadmium	3	13	6.6E+00	2
Chromium	52	5,391	7.5E+01	18
Copper	16	350,047	6.7E+03	16
Lead	10	334	7.7E+00	2
Mercury	1	<0.5	1.9E+00	1
Nickel	3	33	3.2E+00	2
Silver	2	1	2.1E+00	1
Trichloroethene	2	88	1.5E+00	1
Zinc	20	251,331	3.0E+03	18

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