



ANALYSIS OF NATIONAL OCCURRENCE OF THE 1998 CONTAMINANT CANDIDATE LIST (CCL) REGULATORY DETERMINATION PRIORITY CONTAMINANTS IN PUBLIC WATER SYSTEMS

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ABBREVIATIONS

Chemical Abstract Services (CAS)
Chemical Monitoring Reform (CMR)
Community Water System (CWS)
Contaminant Candidate List (CCL)
Environmental Protection Agency (EPA)
Ground Water (GW)
Ground Water - Purchased (GWP)
Ground Water Under Direct Influence (GUDI)
Ground Water Under Direct Influence - Purchased (GUP)
Health Reference Level (HRL)
Inorganic Chemical (IOC)
Maximum Contaminant Level (MCL)
Method Detection Limit (MDL)
micrograms per liter ($\mu\text{g/L}$)
milligrams per liter (mg/L)
Minimum Reporting Level (or Limit, MRL)
National Contaminant Occurrence Database (NCOD)
National Drinking Water Advisory Council (NDWAC)
National Primary Drinking Water Regulations (NPDWRs)
National Water Quality Assessment Program (NAWQA)
National Inorganic and Radionuclides Survey (NIRS)
Non-Transient Non-Community Water System (NTNCWS)
Office of Ground Water and Drinking Water (OGWDW)
Percentage of Systems with Exceedances ($>\text{MCL}$)
Percentage of Systems with Detections ($>\text{MRL}$)

ABBREVIATIONS (continued)

Public Water System (PWS)

Public Water System Identifier (PWSID)

Safe Drinking Water Act (SDWA)

Safe Drinking Water Information System (SDWIS)

Safe Drinking Water Information System/Federal Version (SDWIS/FED)

Surface Water (SW)

Surface Water - Purchased (SWP)

Synthetic Organic Chemical (SOC)

Toxics Release Inventory (TRI)

Transient Non-Community Water System (TNCWS)

United States Geological Survey (USGS)

Unregulated Contaminant Monitoring Information System (URCIS)

Unregulated Contaminant Monitoring (UCM)

Unregulated Contaminant Monitoring Regulation (UCMR)

Volatile Organic Chemical (VOC)

EXECUTIVE SUMMARY

This report presents a comprehensive overview of the initial assessment of national occurrence in public water systems of eight unregulated contaminants on the 1998 Contaminant Candidate List (CCL). The occurrence findings in this report are based on public drinking water contaminant occurrence data from the Unregulated Contaminant Information System (URCIS) database, the Safe Drinking Water Information System/Federal Version (SDWIS/FED) database, and the National Inorganics and Radionuclides Survey (NIRS). The objective of this study is to provide contaminant occurrence information in support of their determinations regarding whether regulating specific CCL contaminants will present a meaningful opportunity to reduce health risk.

This report includes a detailed description of URCIS (Round 1), SDWIS/FED (Round 2), and NIRS unregulated contaminant monitoring data, identifies and addresses the extensive data quality management necessary to conduct occurrence analyses, and describes the construction of a national cross-section of States from URCIS (Round 1) and SDWIS/FED (Round 2). The occurrence analyses of the eight CCL contaminants are summarized, and spatial and graphical occurrence assessments for specific contaminants are also presented.

The URCIS database (Round 1 monitoring data) contains public water system monitoring results, generally from 1988 to 1992, for unregulated contaminants collected under the authority of Safe Drinking Water Act (SDWA). Forty States/primacy entities have submitted PWS monitoring data to URCIS. Subsequent Round 2 monitoring data, generally collected from 1993 to 1997, were reported directly to the SDWIS/FED database. Thirty-five States/primacy entities have submitted Round 2 PWS monitoring data. The raw data from these two databases were reviewed and edited for data quality considerations to ensure consistency and repeatability in the analyses. (The analytical results reported here may differ, therefore, from other analyses using raw data from the first two rounds of unregulated contaminant monitoring that are contained in the SDWIS/FED database.) The NIRS provides contaminant occurrence data from 1984 through 1986 from a group of statistically selected, nationally representative public water systems. These data are from 49 States (there are no data from Hawaii), as well as Puerto Rico. Unlike the URCIS and SDWIS/FED databases, there are few data quality issues with the NIRS data set.

In contrast to NIRS data (which are by design nationally representative), a data management approach was used in this study to develop a national cross-section of States from URCIS and SDWIS/FED. The development of the national cross-sections enabled occurrence analyses that were indicative of national occurrence using data from these two large databases. All States with monitoring data were first evaluated by their distribution across a range of pollution potential indicators and spatial/hydrogeologic diversity. A select group of States, representing a balanced distribution across these pollution potential measures and across the nation geographically, were then used to construct national cross-sections (one cross-section from Round 1 data, and another from Round 2 data) that would provide reasonable representation of national occurrence. While the national cross-sections cannot be stated to be “statistically representative,” the selected cross-sections are very large samples (24 and 20 States, respectively), providing analytical occurrence results that are clear indications of central tendency of the occurrence data, and are generally indicative of national contaminant occurrence.

Assessments of data coverage and analyses of unregulated contaminant occurrence are also presented. Comparisons of Round 1 and Round 2 data coverage were made to evaluate if comparable States, public water systems, and contaminants are contained in both databases. Analytical summaries of occurrence of the eight contaminants for the Round 1 and Round 2 cross-section States and all NIRS States are included, such as the percent of public water systems with at least one analytical result greater than the Minimum Reporting Level (MRL), the percent of public water systems with at least one analytical result greater than a specified concentration such as Health Reference Level or benchmark level, and the 99th percentile value. Finally, a detailed graphical and spatial assessment of the contaminants are developed and presented.

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ACKNOWLEDGMENTS

The compilation and analysis of data presented in this report were undertaken by EPA's Office of Ground Water and Drinking Water (OGWDW) in support of their determinations regarding whether regulating specific CCL contaminants will present a meaningful opportunity to reduce health risk. This effort was directed by Ms. Karen Wirth.

We would like to thank the many States, as well as the American Water Works Service Company, that contributed data sets and valuable advice. Thanks also to the many public water systems that conducted the monitoring that provided the contaminant occurrence data used in this report. Mr. Guy Caruthers and Lewis Summers of OGWDW managed the access to EPA's URCIS and SDWIS/FED databases, the repositories of data used in this project.

The Cadmus Group, Inc. served as the prime contractor for this project, supporting the data management, analysis, and report development, under Contract # 68-C-00-113. Dr. George Hallberg served as the Cadmus Project Manager. The major contributions of Dr. Jonathan Koplos, Erin Hartigan, and Alison Kotros are gratefully acknowledged.

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DISCLAIMER

This report does not constitute U.S. Environmental Protection Agency Policy. Mention of trade names or commercial products does not constitute endorsement or recommendation for use.

This document is designed to provide technical background for the Office of Ground Water and Drinking Water's program. The document does not, however, substitute for the Safe Drinking Water Act or EPA's regulations nor is this document a regulation itself. Thus, it cannot impose legally-binding requirements on EPA, States, or the regulated community, and may not apply to a particular situation based on the circumstances.

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I. INTRODUCTION

EPA has determined that there is sufficient information to support a regulatory determination for a list of eight Contaminant Candidate List (CCL) chemical contaminants: three inorganic contaminants (manganese, sodium, and sulfate), three synthetic organic contaminants (aldrin, dieldrin, and metribuzin), and two volatile organic contaminants (hexachlorobutadiene and naphthalene). (Determination on one microbiological [*acanthamoeba*] will also be made, but is not addressed in this report.) Based on contaminant occurrence, exposure, and other risk considerations, EPA must determine if regulating the CCL contaminants will present a meaningful opportunity to reduce health risk. In this report, national occurrence data will be analyzed for the eight CCL regulatory determination priority contaminants listed above.

This report also provides a detailed review of the occurrence data currently available to EPA, and used in this analysis, which derives from the required monitoring (under the Unregulated Contaminant Monitoring Regulation) of the “unregulated” contaminants conducted by public drinking water systems. Currently, there is no complete national record of unregulated or regulated contaminants in drinking water from public water systems collected under Safe Drinking Water Act (SDWA). Many States have submitted unregulated contaminant public water system (PWS) monitoring data to EPA, but there are issues of data quality, completeness, and “representativeness” (how representative the data are of State occurrence data). Nonetheless, a significant amount of State data are available for contaminants which can provide estimates of national occurrence.

A two stage analytical approach has been developed for the evaluation of the national occurrence of these eight CCL contaminants. The first stage of analysis, described in this report, provides a straightforward evaluation of occurrence of all the CCL contaminants under consideration. In this Stage 1 Analysis, the data sources, quality, and characteristics are assessed, and the data are used to conduct clear, simple, and conservative assessments for a broad evaluation of contaminant occurrence. Based on the findings of the Stage 1 Analysis, EPA can select a set of contaminants for which more detailed and sophisticated statistical evaluations, the Stage 2 Analysis, may be warranted as a next step to generate national probability estimates of contaminant occurrence and exposure.

I.A. Background

The Safe Drinking Water Act (SDWA), as amended in 1996, requires the United States Environmental Protection Agency (USEPA) to publish a list of contaminants (referred to as the Contaminant Candidate List, or CCL) to assist in priority-setting efforts. The contaminants included on the CCL were not subject to any current or proposed National Primary Drinking Water Regulations (NPDWR). However, they were known or anticipated to occur in public water systems and were known or suspected to adversely affect public health, and therefore may require regulation under SDWA.

The 1998 CCL contains 60 contaminants, including 50 chemicals or chemical groups and 10 microbiological contaminants or microbial groups. The SDWA requires the Agency to select five or more contaminants from the current CCL and determine by August 2001 whether or not to regulate these contaminants with an NPDWR. Regulatory determinations for at least five contaminants must be completed 3½ years after each new CCL. This report presents contaminant occurrence findings that serve to support those determinations.

I.B. Sources of the Data Used for Analysis

This section describes the sources of occurrence data used for the analyses in this report. Occurrence data for most of the contaminants evaluated here (aldrin, dieldrin, hexachlorobutadiene, metribuzin, naphthalene, and sulfate) are from the Unregulated Contaminant Information System (URCIS) database and the Safe Drinking Water Information System/Federal version (SDWIS/FED¹)

¹ SDWIS/FED is the official database repository of data provided by public drinking water systems, and includes data from an earlier EPA public water system database called the Unregulated Contaminant Information System (URCIS).

database. URCIS and SDWIS/FED contain State contaminant occurrence data that were collected and submitted to EPA.

Extensive data management work was necessary for all data from URCIS and SDWIS/FED used in this report. The data from these databases used in this report have been reviewed, edited, and filtered to meet various data quality objectives for the purposes of this analysis. Hence, not all data from a particular source were used, only data meeting the quality described in later portions of this report. Given the inherent and significant data quality, completeness, and representativeness issues with the data from these two databases, detailed discussions regarding data management of URCIS and SDWIS/FED data are presented in Section II (URCIS Data Overview), Section III (SDWIS/FED Data Overview), and Section V (Developing A Nationally Representative Perspective). A brief background and clarification of the contaminants and monitoring periods related to URCIS and SDWIS/FED data is presented below.

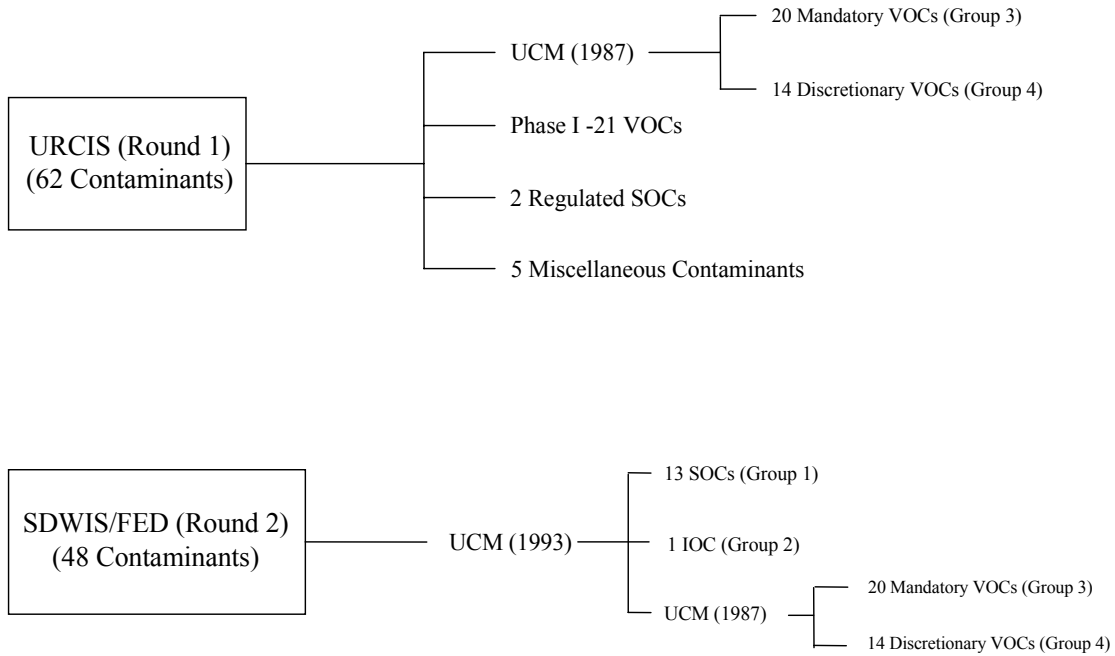
The Safe Drinking Water Act (SDWA), as amended in 1986, required public water systems (PWSs) to monitor for specified unregulated contaminants on a five year cycle, and to report the monitoring results to the States. Unregulated contaminants do not have an established or proposed National Primary Drinking Water Regulation (NPDWR), but they are contaminants that were formally listed and required for monitoring under Federal regulations. The intent was to gather scientific information on the occurrence of these contaminants to enable a decision regarding whether regulations were needed. All non-purchased community water systems (CWSs) and non-purchased non-transient non-community water systems (NTNCWSs), with greater than 150 service connections, were required to conduct this unregulated contaminant monitoring. Smaller systems were not required to conduct this monitoring, but were required to be available to monitor if the State decided such monitoring was necessary. (As evident in the data, many States did collect data from small systems as well.)

The 1993 amendments to SDWA added other contaminants to the unregulated contaminant list for required monitoring, and the 1996 SDWA amendments directed EPA to develop a revised program for such monitoring. This new program was formally published in the Federal Register on September 17, 1999 (64 FR 50556), as the Unregulated Contaminant Monitoring Regulation, now referred to as the UCMR (1999). The UCMR (1999), and related rules, replaced the older requirements, putting forth a new list of contaminants, a new definition of systems that must monitor, a new structure to the monitoring program, and a new framework to ensure that all the results are reported to EPA. Monitoring under the UCMR (1999) will begin in 2001. Every five years this new UCMR must produce a new list of unregulated contaminants for monitoring. This background and history is reviewed here, in part, because the terminology, monitoring periods, and lists of monitored contaminants related to the unregulated contaminant monitoring have often been confusing.

To clarify the history of unregulated contaminant monitoring, a naming system is introduced here to clearly distinguish between the different monitoring periods and the contaminants included in a specific monitoring period. In this section of the report, a description is provided of which contaminants were monitored during which monitoring periods, and which contaminants are included in the different data sets used. The naming system will follow the convention established for the UCMR (1999), using the year of promulgation in parenthesis to refer to a specific list of contaminants. For example, the first unregulated contaminant monitoring list was published in 1987. This specific list of contaminants will be referred to as the UCM (1987) list. This was followed by the UCM (1993) list, and then by the recent UCMR (1999) list.

Figure I.B.1 diagrams the inter-relationship of the various databases, monitoring rounds and contaminant lists related to URCIS and SDWIS/FED. Occurrence data for the UCM (1987) and UCM (1993) contaminants, as well as for other contaminants shown in the following diagram, are contained in the URCIS and SDWIS/FED databases. These databases are described below.

Figure I.B.1. Diagram of the Inter-Relationship of URCIS (Round 1) and SDWIS/FED (Round 2) Databases, Monitoring Rounds and Contaminant Lists Discussed in the Report



Details of the URCIS database, its contained data, data quantity and quality, etc., are discussed in Section II. Similar details of the SDWIS/FED database are discussed in Section III.

Table I.B.1 presents the list of six CCL regulatory determination contaminants contained in URCIS (Round 1) and SDWIS/FED (Round 2). This table includes CAS number and SDWIS contaminant code, and indicates the monitoring Rounds and Group reference numbers for the contaminants.

Table I.B.1. List and Description of CCL Priority Contaminants with Data in URCIS (Round 1) and SDWIS/FED (Round 2)

Contaminant	CAS Number	SDWIS ID	HRL (mg/L)	UC Round	Common Sources of Contaminant
Synthetic Organic Chemicals - Group 1					
Aldrin	309-00-2	2356	0.000002	2	Soil insecticide
Dieldrin	60-57-1	2070	0.000002	2	Insecticide
Metribuzin	21087-64-9	2595	0.091	2	Herbicide used on grass and broadleaf weeds
Inorganic Chemicals - Group 2					
Sulfate	14808-79-8	1055	500; 1,000	2	Fertilizer, natural occurrence, some industrial uses
Volatile Organic Chemicals - Group 3					
Hexachlorobutadiene	87-68-3	2246	0.0009	1 2	Solvent, synthetic rubber, pesticide, insecticide, herbicide, chemical intermediate
Naphthalene	91-20-3	2248	0.14	1 2	Fungicide, moth repellent

HRL = Health Reference Level (concentration values used only as reference levels for analyses in this report)

UC Round = data included in Round 1 and/or Round 2 monitoring and database.

Note: Sulfate data were analyzed using two different HRLs.

Data used for analysis of the remaining inorganic contaminants (manganese, and sodium) are from the National Inorganics and Radionuclides Survey (NIRS) database. The NIRS data, collected for a statistically designed, nationally representative survey, can be used directly for national contaminant occurrence analyses with very few, if any, data quality or use issues. One limitation, however, is that the NIRS data are from groundwater systems only. The NIRS data, and assessments of supplemental IOC data, are discussed in Section IV (NIRS Data Overview).

The NIRS survey was designed and conducted by EPA specifically to provide data on the occurrence of a select set of radionuclides and inorganic chemicals (IOCs) being considered for National Primary Drinking Water Regulations. The NIRS provides contaminant occurrence data from approximately 989 nationally representative community public water systems served by ground water. (NIRS does not include surface water systems.) Each of these statistically randomly selected public water systems was sampled a single time between 1984 and 1986. Table I.B.2 describes the NIRS inorganic contaminants for which occurrence was assessed in this report.

Table I.B.2. List and Description of the CCL Inorganic Chemicals with data in NIRS

Contaminant	CAS Number	SDWIS ID	HRL ¹ (mg/L)	Common Sources of Contaminant
Inorganic Chemicals - Group 2				
Manganese	7439-96-5	1032	0.05; 0.30	Naturally occurring, manganese compounds produced in many industrial processes
Sodium	7440-23-5	1052	30; 120	Naturally occurring, widely used in table salt, road salt, additives to buffer or to soften drinking water

1. In the case of sodium, a benchmark, rather than an HRL, was chosen based on taste thresholds and effects, which occur at lower concentrations than health effects.

HRL = Health Reference Level (concentration values used only as reference levels for analyses in this report)

Note: Manganese data were analyzed using two different HRLs. Sodium data were analyzed using two different benchmark levels.

I.C. Data Analysis

All statistical analyses, and most database manipulations, were conducted with SAS[®] statistical software. Some data formatting problems were corrected in Microsoft[®] Excel with the aid of specialized programs written in Visual Basic[®] or were corrected directly in SAS before the analysis began². After analysis, results were typically exported into Excel for secondary analysis, sorting, or the development of report tables.

This report contains summary data analyses, using data from three databases, that serve as the basis of this Stage 1 contaminant occurrence analysis. These summary analyses identify data coverage, highlight and address data quality issues encountered in the raw data, establish basic data quality, and provide an initial assessment of occurrence of eight CCL contaminants in public water systems.

II. URCIS (ROUND 1) DATA OVERVIEW

In this section of the report, the monitoring results for the URCIS (Round 1) data (from approximately 1988-1992) are reviewed. The data (as described in Section I) were derived from EPA's Unregulated Contaminant Information System (URCIS) database.

II.A. Description of Data

URCIS is a compilation of public water system monitoring results for unregulated contaminants, collected under the authority of SDWA, and reported to the States (as the primacy agents for SDWA). EPA requested that the States submit these data to EPA in the early 1990s, but no formal protocol or format had been established for reporting. Given the evolving nature of data management during this era various problems were encountered. The data were supplied by States on a variety of media, ranging from photocopies of hand-written files to electronic files on magnetic tape or diskettes of various kinds, and in many different formats and software configurations. Some data were electronically transferrable, other data had to be manually entered or re-entered. EPA has been working on the clean-up and analysis of these data since 1992. Through this long history³, many critical data quality problems were resolved (such as getting the data into consistent, standard units of measure), or at least resolved to the extent possible.

Some preliminary analyses of the URCIS (Round 1) data were presented in the occurrence data report produced for EPA-OGWDW's Chemical Monitoring Revisions (CMR) project. This report, *A Review of Contaminant Occurrence in Public Water Systems* (USEPA, 1999), is referred to as the "CMR Report". In 1999, EPA also transferred the URCIS data into SDWIS/FED, in an attempt to join the URCIS (Round 1) data with Round 2 data being submitted by the States into SDWIS/FED. Some preliminary analyses of these joined data were performed⁴. Because of various software and database complications, the transfer of the URCIS (Round 1) data into SDWIS/FED was not complete, creating problems in the resultant analysis undertaken in the previous work. Later, during the initial analyses of this current report, various data quality problems in the SDWIS/FED-derived URCIS database itself were identified, particularly in the units of measure of the recorded analytical results. Hence, for the analysis presented in this report, the original URCIS database was evaluated.

² SAS is a registered trademark of the SAS Institute, Inc. Excel and Visual Basic are trademarks of the Microsoft Corporation.

³ For example, Fallon, Fran, 1994 (November), "Unregulated Contaminants Information System (URCIS) System Inventory." Computer Sciences Corp, 1993 (March), "Unregulated Contaminants Maintenance Manual." Fallon, Fran, 1993 (December), "Unregulated Contaminants Maintenance Manual Supplement." Computer Sciences Corp, 1992 (July), "A Statistical Survey of the Unregulated Contaminant Data." (All of these internal reports contain many pages of text, sometimes unnumbered, and typically many pages of unnumbered tabulated data and/or computer code.)

⁴ SAIC, 1999 (June), "Unregulated Contaminant Occurrence Results for Round One Monitoring," SAIC Project 01-0833-08-3559-030. EPA Contract 68-C6-0059.

The version of URCIS used as the basis for this analysis was the complete and most current (1997) edition of this EPA Office of Ground Water and Drinking Water database. The original, raw edition of the database was edited for data quality considerations, as described below, to ensure consistency and repeatability in the analyses. The values reported here from URCIS may be somewhat different than in other EPA reviews (or the CMR report) because of the screening and editing conducted specifically for this study to ensure consistency in and dependability of the analyses.

The URCIS database (as noted in Section I) includes information on 62 contaminants, including: 34 unregulated VOCs; 2 regulated SOCs and 21 regulated VOCs; and 5 miscellaneous contaminants reported by the States. The data were reported from 38 States, Washington, D.C., and the Virgin Islands. The data are from the first round of required unregulated contaminant monitoring initiated in 1987 (i.e., UCM (1987)), but also include older data that are comparable to, but predate, the formal beginning of first round monitoring.

II.B. Data Management and Data Quality

During 1997-1998, the URCIS database was reviewed for various data quality problems and subsequently edited to remove problematic data to ensure the quality of the data used in the analysis. The data were first downloaded from the URCIS database. In the process of initial download and translation, unreadable lines of text and characters were apparently introduced into the data set and were therefore deleted. (These lines did not appear to be actual data, but were artifacts related to download, translation, and merger of various data sets from URCIS.) Additionally, data from 946 systems of unknown source water type were eliminated. (Other systems had no source type specified, but this missing inventory information was supplemented with SDWIS inventory data.) Five observations with contaminant concentrations greater than 9,000 micrograms/Liter and were excluded from the analysis (as presumed errors; this outlier editing was consistent with other processing that EPA has completed, see USEPA, 1999). Another 1,503 observations with erroneous sampling dates (e.g., years indicated as 00, 01, 39, etc.) were eliminated.

Some sample identification numbers from six States were missing required digits (they had an inadequate number of sample ID numbers to define a unique sample, as compared to other sample IDs). New sample numbers were assigned by concatenating the system ID with the original sample ID so that a given sample number was unique and could not appear more than once in the database. Also, the analyses noted that some data from 357 systems were sometimes identified as ground water systems and at other times as surface water systems. These records were presumably from systems with mixed water sources. The inclusion of these data result in a very slight overcount of systems (when totaled by source water type), but these mixed source results comprise only a very small amount of data.

Some further editing was performed for this current analysis. Some URCIS (Round 1) analytical results included unidentified contaminant codes. These data were merged with a list of contaminants based on the Chemical Abstract Services (CAS) number to identify the chemical name. Five contaminant codes used in URCIS (Round 1), totaling 22,548 records, did not match any contaminants on the CAS list. These records were removed from the database to ensure quality of analysis. Systems with a system type recorded as "NP", i.e., non-public, were also removed, because it is unclear what this designation means regarding type(s) of system. Also, some data were included in the original URCIS database that date from the first three months of 1993. The inclusion of 1993 data was not consistent among States, some States included only partial records, and 1993 data are also included in Round 2. Hence, for consistency, the samples recorded after 1992 (14,221 observations) were removed from the URCIS database prior to analysis.

For some records, the data were of good quality, but some system inventory information was missing. To enable use of these URCIS (Round 1) data records, the URCIS (Round 1) data were merged by PWSID with current SDWIS-Needs Survey PWS Inventory data to obtain missing system inventory information data on the source water, system type and population served for the PWSs. Note that these supplemental inventory data are from 1999. While URCIS (Round 1) data are from an earlier period, the inventory provided a consistent data source to update the information. After these data management and editing efforts, there are 3,452,530 analytical records for the 62 contaminants in URCIS (Round 1).

Even with this extensive data management effort, there will still be data quality problems given the diverse sources of these data and the sheer size of the database (i.e., 3.5 million records). Sources of problems may include some data recorded in incorrect units, (e.g., the results are actually in mg/L, but are recorded as µg/L) or data units mistakenly converted in the original compilation of the data (e.g., the data units were actually in µg/L, were incorrectly assumed to be in mg/L, and were then mistakenly ‘converted’ to µg/L as if they were mg/L). Recent reviews of the original database indicate that this does not appear to affect many data. There are a few abnormally high analytical results (outliers) that may be affected by this units problem. While outliers affect a review of the maximum concentration values of a contaminant, there are few such data and they will have limited impact on other occurrence statistics reviewed in this report. (For most analytical summaries included in this report, the value of the 99th percentile is presented to avoid this problem.)

II.C. URCIS (Round 1) Data Bias and Representativeness: Further Data Quality Review and Editing

Subsequent to the major editing efforts on this database, a basic analysis of the 3.5 million records was undertaken. As a first step, various descriptive statistics were compiled by State to enable a further data review for bias and representativeness. Some State data, as will be described, are so incomplete that their use would introduce bias into the analyses. This was an important factor of the data quality assessment when reviewing data to determine whether they can be used for Stage 2 analysis. These data are used in certain parts of this report to provide context or reference, but not to make determinations based on their occurrence analyses.

Table II.C.1 summarizes some key results from this next stage of data review. The table summarizes the data availability for 57 primacy entities considered under SDWA: the 50 States, 5 territories, the District of Columbia, and an aggregate entry for the Native American tribes. Within URCIS (Round 1), there are data for 38 States, the Virgin Islands, and Washington, D.C., and no data for 17 primacy entities. Some States only reported data for detections. For eight States (listed in the column labeled “Data sets with 100% Detects”), the percent of samples with analytical detections (or in other words, the percent of samples with analytical results greater than the Minimum Reporting Level, labeled in the tables as “Percent Sample Detections”) ranged from 80-100%. These States only reported data for detections and, hence, are highly biased (they did not report the majority of the monitoring sample results for which there were no detections above the MRL). As presented in the table, the percent of samples with detections (aggregating all the data), typically ranges from 1-3% for States with complete data reporting. Besides this obvious source of bias, the apparent completeness of the data related to the number of PWSs represented is also reviewed.

The number of unique PWSs included in each State’s data record is shown in Table II.C.1. The number of PWSs included were compared to the total number of nonpurchased CWSs and NTNCWSs in the current State inventory, and to the number of nonpurchased CWSs and NTNCWSs serving more than 500 people (since not all small systems may have had to conduct this monitoring). The States listed as “Most Complete Data sets” all approximated or exceeded 100% of one of these numbers (i.e., New Mexico’s URCIS (Round 1) PWS numbers were only 70% of their current total inventory, but equaled 300% of the number of systems serving more than 500 persons). The States listed as “Significantly Too Few Systems” had far less representativeness. For example, Colorado only has data in URCIS (Round 1) for 60 PWSs. This represents only 24% of the reported number of systems in their inventory lists. Also, Colorado data show 34% of all sample data are detections. Further review suggests that their data mainly include records for systems that had detections, but that analytical records were provided for all samples for these systems. This partial, selective reporting lowers the percent of sample records that represent detections (to less than 100% detection), but still reflects biased reporting and creates a biased analytical record, since not all non-detection records have been reported (such as records from the likely large number of systems with non-detections). In other cases, it is not clear what the data represent. Nevada’s reported percent samples with detections suggests the data may be complete, but there is only data for 10 systems, only about 3% of systems as based on State inventory records. Another five States are listed as having too few systems.

Table II.C.1 also presents the number of samples per PWS in each State's data. This summary statistic provides a perspective on the relative completeness of reporting. For example, the States reporting only samples with detections typically report 2 to 10 samples per PWS. For most States, approximately 100 to 300 samples are collected and reported per PWS.

The last column on Table II.C.1 lists States with data records that are not complete (i.e., less than 100% of systems reported as based on inventory listings), but that have other parameters (e.g., "Percent Sample Detections", "Samples per PWS", etc.) that suggest that the data are balanced and perhaps complete for the systems that did report. The relatively low system numbers may simply relate to how the State implemented the program (e.g., implementation related to system size or other waivers, etc.). Florida reports data for 855 PWSs, a substantive number, but they also have a large inventory.

Table II.C.1. Summary of Data Quantity and Quality in URCIS (Round 1) for the States, Tribes and Territories

States/ Tribes/ Territories	Total Unique PWSs	Percent Sample Detections	Samples per PWS	No Data in Database	Data sets with 100% Detects	Significantly Too Few Systems	States Usable for Cross-Section	
							Most Complete Data Sets	Incomplete but Adequate Data sets
1 Alabama	152	5%	136					Alabama
2 Alaska	748	2%	132				Alaska	
3 <i>American Samoa</i>	-			<i>American Samoa</i>				
4 Arizona	973	1%	151				Arizona	
5 Arkansas	6	100%	5		Arkansas			
6 California	4,167	7%	111				California	
7 Colorado	60	34%	38			Colorado		
8 Connecticut	-			Connecticut				
9 Delaware	13	6%	1,207			Delaware		
10 Florida	855	20%	14					Florida
11 Georgia	1,165	2%	120				Georgia	
12 <i>Guam</i>	-			<i>Guam</i>				
13 Hawaii	127	1%	370				Hawaii	
14 Idaho	-			Idaho				
15 Illinois	1,307	5%	147				Illinois	
16 Indiana	415	4%	292				Indiana	
17 Iowa	1,002	5%	62				Iowa	
18 Kansas	-			Kansas				
19 Kentucky	525	3%	273				Kentucky	
20 Louisiana	13	3%	95			Louisiana		
21 Maine	-			Maine				
22 <i>Marianna Islands</i>	-			<i>Marianna Islands</i>				
23 Maryland	998	2%	105				Maryland	
24 Massachusetts	220	91%	14		Massachusetts			
25 Michigan	139	100%	16		Michigan			
26 Minnesota	1,565	1%	100				Minnesota	
27 Mississippi	206	100%	6		Mississippi			
28 Missouri	85	1%	215			Missouri		
29 Montana	565	2%	94				Montana	
30 Nebraska	214	100%	6		Nebraska			
31 Nevada	10	2%	860			Nevada		
32 New Hampshire	201	100%	5		New Hampshire			
33 New Jersey	1,551	2%	94				New Jersey	
34 New Mexico	617	0%	151				New Mexico	
35 New York	357	1%	348					New York
36 North Carolina	298	2%	134					North Carolina

	States/ Tribes/ Territories	Total Unique PWSs	Percent Sample Detections	Samples per PWS	No Data in Database	Data sets with 100% Detects	Significantly Too Few Systems	States Usable for Cross-Section	
								Most Complete Data Sets	Incomplete but Adequate Data sets
37	North Dakota	-			North Dakota				
38	Ohio	2,657	1%	313				Ohio	
39	Oklahoma	-			Oklahoma				
40	Oregon	-			Oregon				
41	Pennsylvania	-			Pennsylvania				
42	<i>Puerto Rico</i>	-			<i>Puerto Rico</i>				
43	Rhode Island	-			Rhode Island				
44	South Carolina	-			South Carolina				
45	South Dakota	335	4%	52				South Dakota	
46	Tennessee	306	4%	197				Tennessee	
47	Texas	124	98%	2		Texas			
48	<i>Tribes</i>	-			<i>Tribes</i>				
49	Utah	430	1%	150				Utah	
50	Vermont	133	82%	10		Vermont			
51	<i>Virgin Islands</i>	3	9%	186					<i>Virgin Islands</i>
52	Virginia	-			Virginia				
53	Washington	992	1%	229				Washington	
54	Washington, D.C.	1	5%	3,432				Washington, D.C.	
55	West Virginia	139	6%	157					West Virginia
56	Wisconsin	-			Wisconsin				
57	Wyoming	145	3%	125				Wyoming	
	TOTAL	23,819	2.9%	146	17	8	5	21	6

In summary, of the 40 States/territories with data in URCIS (Round 1), 21 States have records that appear relatively complete and balanced, and another 6 have records that likely are balanced and with a substantial (though not complete) number of systems. The data from these 27 States should provide the most complete and unbiased summary of the occurrence data; the remaining 13 States are clearly biased since results are reported only (or primarily) for detections. To present a national summary of the data, the 27 primacy entities with most complete records (the 27 States identified in the two far-right columns in Table II.C.1, “Most Complete Data Sets,” and “Incomplete but Adequate,”) were evaluated for their national representativeness and considered for inclusion in the subsequent analyses. (The assessment of national representativeness is discussed further in Section IV.)

From these 27 States with reasonably complete data, three primacy entities were removed. Washington, D.C. and the Virgin Islands were removed because they are not States, and the New York State data were excluded because there were various and numerous problems associated with the data and metadata. For example, New York did not use standard PWSIDs that could be associated with SDWIS records, and the total number of reporting PWSs in the New York data set represented only 12 to 40% of the expected number of PWSs as based on the State’s inventory numbers. Also, there were some embedded errors in the data that sometimes caused data processing problems. Therefore, as summarized in Section VI, data are aggregated for a representative cross-section of 24 States (the 27 entities less Washington, D.C., the Virgin Islands, and New York), as well as for all 40 entities (which includes all entities; those with complete and balanced records, as well as the entities with biased records).

II.D. Data Characteristics Overview

A descriptive overview of the data is presented in a series of tables to provide additional insight and perspective on the results. After data management and editing, 3.45 million records were available for analysis representing over 24,000 PWSs from the 40 States/entities. For the 24 States comprising the URCIS (Round 1) representative cross-section (see Section VI for a discussion regarding cross-section), the analytical results total is 3.27 million records, from 22,034 PWSs. Summary results for all States, as well as for the 24 cross-section States, are included in the following tables.

Table II.D.1 shows data elements included in URCIS (Round 1). Note that a special data element was developed in URCIS (Round 1) to distinguish between a detection and a result below the minimum reporting level. (Many States do not provide an actual value for the minimum reporting level, or MRL, and often these values are recorded as a zero in the analytical result field.)

Table II.D.1. Data Elements Included in URCIS (Round 1) for UCM (1987) List Contaminants

Data Element		Description
PWS Identification Number		Nine digit identification number unique to each public water system
Source Identification Number		Three-digit code to identify the source
Source Water Type		
	Ground Water	Ground water or purchased ground water
	Surface Water	Surface water, purchased surface water, ground water under the direct influence of surface water or purchased ground water under the direct influence of surface water
Chemical Abstract Services (CAS) Number		Unique numeric designation used to identify specific chemical compounds
Contaminant Name		Commonly used contaminant name
Contaminant Group		
	SOC	Synthetic Organic Chemicals
	VOC	Volatile Organic Chemicals
	Y	Trihalomethanes
Sample Date		Date sample was collected (years 1983 through 1992)
Analysis Result		Concentration of the sample (measured in micrograms/liter)
Detection Identifier		Code to determine if analysis result is greater than or less than the Minimum Reporting
	0	Result is less than the Minimum Reporting Level
	1	Result is greater than the Minimum Reporting Level
Community Type		
	CWS	Community Water System
	NCWS	Non-Community (Transient) Water System
	NTNCWS	Non-Transient Non-Community Water System
Population Served		Population served by the public water system

Included in Table II.D.2 are the number and percent of sample records and systems related to source water type: 87% of the systems are classified as ground water and 13% as using surface water. The Round 1 data were collected before “ground water under the direct influence of surface water” (GUDI) was introduced as a source definition. The classification used follows the regulatory guidelines: if a system uses any surface water, the system is classified, and is required to monitor, as a surface water system.

Table II.D.2. URCIS (Round 1) Data- Number of Records and Systems by Source Water Type

SOURCE TYPE	RECORDS		SYSTEMS	
	NUMBER	PERCENT	NUMBER	PERCENT
Total - Ground Water	2,950,618	85.5%	21,046	87.1%
Total - Surface Water	501,912	14.5%	3,130	12.9%
Total	3,452,530	100.0%	24,176	100.0%
24 States - Ground Water	2,814,472	86.1%	19,637	87.9%
24 States - Surface Water	453,173	13.9%	2,695	12.1%
24 States - Total	3,267,645	100.0%	22,332	100.0%

Note: There are a greater number of "Total" and "24 States Total" systems here than in Table II.D.3 since some water systems have more than one source water type.

Table II.D.3. shows the number and percent of records and systems by system type. About 7% of systems were coded as "NCWS", a SDWIS code typically used for transient systems. Transient PWSs were not required by federal rule to monitor, but may have been required to by some States. Also, about 7% of the systems did not indicate a system type (and the type could not be determined by SDWIS inventory records). These data remained in the database for the first stages of analysis, because other data elements were complete.

Table II.D.3. URCIS (Round 1) Data- Number of Records and Systems by System Type

SYSTEM TYPE	RECORDS		SYSTEMS	
	NUMBER	PERCENT	NUMBER	PERCENT
Total - CWS ¹	2,608,840	75.6%	15,562	65.3%
Total - NCWS ²	89,707	2.6%	1,771	7.4%
Total - NTNCWS ³	516,047	14.9%	4,872	20.5%
Total - UNKNOWN	237,936	6.9%	1,614	6.8%
Total	3,452,530	100.0%	23,819	100.0%
24 States - CWS ¹	2,546,144	77.9%	14,260	64.7%
24 States - NCWS ²	89,533	2.7%	1,746	7.9%
24 States - NTNCWS ³	515,807	15.8%	4,774	21.7%
24 States - UNKNOWN	116,161	3.6%	1,254	5.7%
24 States - Total	3,267,645	100.0%	22,034	100.0%

1. CWS = Community Water System

2. NCWS = Non-Community (Transient) Water System

3. NTNCWS = Non-Transient Non-Community Water System

Note: There are a fewer number of "Total" and "24 States Total" systems here than in Table II.D.2 since some water systems have more than one source water type.

Tables II.D.4 and II.D.5 show the distribution of data by years and by month across all years. The majority of data were collected during the 1987-1992 compliance cycle, with a peak of data collection in 1991. (Records prior to 1987 predate the formal beginning of first round monitoring, but represent comparable data, and are therefore included to expand the coverage of these analyses.) Although in the month of March there is a slightly greater monthly percentage of data, there is no significant difference, suggesting that there should be no seasonal bias due to monthly differences in reporting.

Table II.D.4. URCIS (Round 1) Data- Number of Records by Year and Source Water Type

YEAR	# SURFACE WATER RECORDS	# GROUND WATER RECORDS	TOTAL # RECORDS	% OF TOTAL RECORDS
Total - 1983	260	553	813	0.0%
Total - 1984	150	44,305	44,455	1.3%
Total - 1985	233	78,994	79,227	2.3%
Total - 1986	1,939	140,620	142,559	4.1%
Total - 1987	12,942	120,728	133,670	3.9%
Total - 1988	119,367	232,471	351,838	10.2%
Total - 1989	131,030	382,077	513,107	14.9%
Total - 1990	101,945	574,609	676,554	19.6%
Total - 1991	108,681	1,179,423	1,288,104	37.3%
Total - 1992	25,365	196,838	222,203	6.4%
TOTAL	501,912	2,950,618	3,452,530	100.0%
24 States - 1983	0	5	5	0.0%
24 States - 1984	30	43,837	43,867	1.3%
24 States - 1985	175	78,696	78,871	2.4%
24 States - 1986	1,852	140,155	142,007	4.3%
24 States - 1987	12,876	120,292	133,168	4.1%
24 States - 1988	107,428	214,190	321,618	9.8%
24 States - 1989	111,979	337,068	449,047	13.7%
24 States - 1990	87,273	509,889	597,162	18.3%
24 States - 1991	106,338	1,174,459	1,280,797	39.2%
24 States - 1992	25,222	195,881	221,103	6.8%
24 States - TOTAL	453,173	2,814,472	3,267,645	100.0%

Table II.D.5. URCIS (Round 1) Data- Number of Records by Month and Source Water Type

MONTH	# SURFACE WATER RECORDS	# GROUND WATER RECORDS	TOTAL # OF RECORDS	% OF TOTAL RECORDS
Total - January	35,587	276,606	312,193	9.0%
Total - February	47,287	267,434	314,721	9.1%
Total - March	50,360	345,113	395,473	11.5%
Total - April	35,705	272,149	307,854	8.9%
Total - May	49,007	267,254	316,261	9.2%
Total - June	44,784	207,553	252,337	7.3%
Total - July	33,777	197,418	231,195	6.7%
Total - August	43,397	196,703	240,100	7.0%
Total - September	38,699	223,775	262,474	7.6%
Total - October	38,267	232,324	270,591	7.8%

MONTH	# SURFACE WATER RECORDS	# GROUND WATER RECORDS	TOTAL # OF RECORDS	% OF TOTAL RECORDS
Total - November	41,990	225,235	267,225	7.7%
Total - December	43,052	239,054	282,106	8.2%
Total	501,912	2,950,618	3,452,530	100.0%
24 States - January	33,315	266,685	300,000	9.2%
24 States - February	42,774	259,528	302,302	9.3%
24 States - March	42,903	328,589	371,492	11.4%
24 States - April	33,625	262,270	295,895	9.1%
24 States - May	45,221	254,900	300,121	9.2%
24 States - June	38,140	190,791	228,931	7.0%
24 States - July	31,060	190,254	221,314	6.8%
24 States - August	40,967	185,958	226,925	6.9%
24 States - September	33,214	209,679	242,893	7.4%
24 States - October	35,756	222,984	258,740	7.9%
24 States - November	39,480	215,372	254,852	7.8%
24 States - December	36,718	227,462	264,180	8.1%
24 States - Total	453,173	2,814,472	3,267,645	100.0%

Table II.D.6 summarizes the number of systems and population served for each State by population-served size categories. Table II.D.7 provides further details by system type. Note that the majority of New York and Alaska systems cannot be associated with a population-served because the population data were not reported, and for the URCIS (Round 1) data these States used State-specific PWSIDs systems that cannot be supplemented by other databases. (We were not able, for example, to derive population estimates for systems by merging the URCIS (Round 1) data to New York or Alaska State data in SDWIS because of the lack of common PWSIDs.) Also, while California has a large number of systems without population data (540), this only constitutes about 13% of the systems represented in their data.

The analytical findings of the occurrence data for the two CCL contaminants (naphthalene and hexachlorobutadiene) from the 24 URCIS (Round 1) cross-section States are developed and summarized in Section VI of this report.

Table II.D.6. Total Number of Public Water Systems by State and Population Size Category Contained in the URCIS (Round 1) Database

State	< 500		501-3,300		3,301-10,000		10,001-50,000		>50,000		SYSTEMS WITH POP DATA	SYSTEMS WITH NO POP DATA ¹	TOTAL	
	Systems	Pop.	Systems	Pop.	Systems	Pop.	Systems	Pop.	Systems	Pop.			Systems	Pop. Served
Alaska	54	1,914	0	0	0	0	0	0	0	0	54	694	748	1,914
Alabama	33	7,009	27	55,027	41	240,441	41	784,624	10	1,705,098	152	0	152	2,792,199
Arkansas	1	200	3	3,735	2	11,928	0	0	0	0	6	0	6	15,863
Arizona	665	102,991	218	270,754	50	271,132	30	663,184	10	2,705,523	973	0	973	4,013,584
California	2,520	317,235	559	782,402	211	1,349,634	212	5,498,165	125	20,801,367	3,627	540	4,167	28,748,803
Colorado	37	5,204	9	13,047	2	13,600	8	162,546	4	1,680,200	60	0	60	1,874,597
Washington, D.C.	1	0	0	0	0	0	0	0	0	0	1	0	1	0
Delaware	0	0	2	2,434	6	32,198	2	60,300	3	404,800	13	0	13	499,732
Florida	434	72,950	193	281,349	88	525,826	100	2,393,159	38	6,326,159	853	2	855	9,599,443
Georgia	788	117,453	231	310,920	84	473,277	46	1,056,758	16	2,967,369	1,165	0	1,165	4,925,777
Hawaii	51	11,477	40	61,169	22	127,092	11	240,632	3	820,233	127	0	127	1,260,603
Iowa	549	106,710	356	432,396	69	400,312	20	444,462	8	744,541	1,002	0	1,002	2,128,421
Illinois	624	122,394	459	586,283	135	768,046	76	1,551,040	13	4,215,097	1,307	0	1,307	7,242,860
Indiana	146	25,846	160	222,855	61	346,289	39	856,829	9	1,660,931	415	0	415	3,112,750
Kentucky	267	47,385	117	182,427	76	453,476	61	1,239,827	4	1,224,025	525	0	525	3,147,140
Louisiana	1	400	1	3,300	6	33,705	3	65,310	2	137,400	13	0	13	240,115
Massachusetts	12	1,555	25	58,716	60	394,623	97	2,281,386	16	3,060,031	210	10	220	5,796,311
Maryland	720	106,915	201	228,018	49	256,062	22	494,978	6	3,765,001	998	0	998	4,850,974
Michigan	52	8,803	47	74,381	17	100,965	17	382,481	6	1,634,269	139	0	139	2,200,899
Minnesota	1,131	128,066	315	422,736	61	341,983	54	1,264,645	2	146,335	1,563	2	1,565	2,303,765
Missouri	1	25	6	18,503	50	296,997	24	382,805	3	191,700	84	1	85	890,030
Mississippi	62	16,421	92	134,099	29	166,067	22	551,708	1	205,895	206	0	206	1,074,190
Montana	470	64,429	69	92,750	19	104,176	5	146,666	2	141,151	565	0	565	549,172
North Carolina	177	29,818	62	104,598	33	202,185	23	493,108	3	283,900	298	0	298	1,113,609
Nebraska	117	24,264	73	87,124	14	78,871	8	176,145	2	580,341	214	0	214	946,745
New Hampshire	125	18,040	47	67,207	13	77,742	14	261,331	2	184,750	201	0	201	609,070
New Jersey	1,210	142,718	223	265,866	54	335,843	50	1,167,427	14	3,572,618	1,551	0	1,551	5,484,472
New Mexico	453	66,407	116	142,048	26	168,031	19	450,299	3	545,179	617	0	617	1,371,964
Nevada	0	0	0	0	7	43,850	1	27,060	2	1,000,000	10	0	10	1,070,910
New York	1	380	5	7,000	1	3,500	1	17,000	0	0	8	349	357	27,880
Ohio	1,852	289,842	555	675,965	120	713,602	102	2,149,959	26	4,916,684	2,655	2	2,657	8,746,052
South Dakota	225	36,254	83	102,550	16	81,272	9	134,818	2	155,814	335	0	335	510,708
Tennessee	65	11,205	85	128,990	85	539,009	59	1,314,876	12	1,921,707	306	0	306	3,915,787
Texas	26	6,449	49	69,308	26	135,427	13	231,413	10	2,317,678	124	0	124	2,760,275
Utah	253	47,854	95	142,188	41	253,727	29	656,592	12	2,017,135	430	0	430	3,117,496
Virgin Islands	0	0	1	2,000	0	0	2	64,000	0	0	3	0	3	66,000
Vermont	83	13,443	35	53,217	9	53,070	5	105,300	1	56,000	133	0	133	281,030
Washington	574	118,291	266	381,713	72	430,502	57	1,338,993	9	1,531,541	978	14	992	3,801,040
West Virginia	15	2,337	81	131,115	28	156,505	13	300,335	2	238,577	139	0	139	828,869
Wyoming	89	19,296	35	49,438	13	77,875	6	116,923	2	109,000	145	0	145	372,532
TOTAL	13,884	2,091,980	4,941	6,647,628	1,696	10,058,840	1,301	29,527,084	383	73,968,049	22,205	1,614	23,819	122,293,581
24 States	13,365	1,996,796	4,546	6,053,557	1,454	8,616,297	1,084	24,758,299	331	62,514,985	20,780	1,254	22,034	103,939,934

1. A total of 1,614 systems in the UCM (1987) database do not contain population-served information. Population-served information was also not available for those systems in the 1999 Needs Survey, and therefore, the population size categories could not be determined for these systems.
 Note: The total number of systems is different from the totals in Table IV.A.2 since some systems have more than one source type.

Table II.D.7. Number of Public Water Systems by State, System Type and Population Size Category Contained in the URCIS (Round 1) Database

State	Population Size Category (Population Served by System)																SYSTEMS WITH POP DATA	SYSTEMS WITH NO POP DATA ⁴	TOTAL PWSs				
	< 500				501 - 3,300				3,301 - 10,000				10,001 - 50,000							> 50,000			
	TOTAL	System Type			TOTAL	System Type			TOTAL	System Type			TOTAL	System Type						TOTAL	System Type		
	CWS ¹	NTNCW	NCWS ³		CWS ¹	NTNCW	NCWS ³		CWS ¹	NTNCW	NCWS ³		CWS ¹	NTNCW	NCWS ³		CWS ¹	NTNCW	NCWS ³				
Alaska	54	9	2	43																54	694	748	
Alabama	33	12	21		27	20	7		41	41			41	41			10	10		152		152	
Arkansas	1	1			3	3			2	2										6		6	
Arizona	665	387	133	145	218	169	40	9	50	47		3	30	30			10	10		973		973	
California	2,520	1,491	321	708	559	422	70	67	211	196	7	8	212	208	4	125	124	1	3,627	540	4,167		
Colorado	37	28	8	1	9	8	1		2	2			8	8			4	4		60		60	
Washington,D.C.	1	1																		1		1	
Delaware					2	2			6	6			2	2			3	3		13		13	
Florida	434	384	18	32	193	187	4	2	88	88			100	100			38	38		853	2	855	
Georgia	788	644	133	11	231	205	25	1	84	83	1		46	46			16	16		1,165		1,165	
Hawaii	51	41	7	3	40	35	3	2	22	22			11	11			3	3		127		127	
Iowa	549	439	94	16	356	338	16	2	69	69			20	20			8	8		1,002		1,002	
Illinois	624	624			459	459			135	135			76	76			13	13		1,307		1,307	
Indiana	146	51	89	6	160	152	8		61	61			39	39			9	9		415		415	
Kentucky	267	101	160	6	117	91	25	1	76	76			61	61			4	4		525		525	
Louisiana	1	1			1	1			6	6			3	3			2	2		13		13	
Massachusetts	12	6	3	3	25	24	1		60	60			97	97			16	16		210	10	220	
Maryland	720	323	388	9	201	109	92		49	48	1		22	22			6	6		998		998	
Michigan	52	51		1	47	46	1		17	16		1	17	17			6	6		139		139	
Minnesota	1,131	444	582	105	315	295	19	1	61	60	1		54	54			2	2		1,563	2	1,565	
Missouri	1	1			6	6			50	50			24	24			3	3		84	1	85	
Mississippi	62	53	9		92	86	6		29	28	1		22	22			1	1		206		206	
Montana	470	324	114	32	69	63	6		19	19			5	5			2	2		565		565	
North Carolina	177	168	9		62	62			33	33			23	23			3	3		298		298	
Nebraska	117	91	21	5	73	71	2		14	14			8	8			2	2		214		214	
New Hampshire	125	90	29	6	47	45	2		13	13			14	14			2	2		201		201	
New Jersey	1,210	123	800	287	223	69	145	9	54	52	2		50	50			14	14		1,551		1,551	
New Mexico	453	355	95	3	116	95	21		26	26			19	19			3	3		617		617	
Nevada									7	7			1	1			2	2		10		10	
New York	1	1			5	5			1	1			1	1						8	349	357	
Ohio	1,852	703	971	178	555	354	183	18	120	117		2	1	102	102			26	26		2,655	2	2,657
South Dakota	225	197	25	3	83	82	1		16	15			1	9	9			2	2		335		335
Tennessee	65	24	35	6	85	75	10		85	85			59	59			12	12		306		306	
Texas	26	21	4	1	49	46	3		26	26			13	13			10	10		124		124	
Utah	253	181	54	18	95	90			41	41			29	28	1		12	12		430		430	
Virgin Islands					1	1	5						2	2						3		3	
Vermont	83	72	4	7	35	32	3		9	9			5	5			1	1		133		133	
Washington	574	558	6	10	266	264	2		72	72			57	57			9	9		978	14	992	
West Virginia	15	13	2		81	79	2		28	28			13	13			2	2		139		139	
Wyoming	89	79	8	2	35	34	1		13	13			6	6			2	2		145		145	
TOTAL	13,884	8,092	4,145	1,647	4,941	4,125	704	112	1,696	1,667	18	11	1,301	1,296	5	383	382	1	22,205	1,614	23,819		
24 States	13,365	7,675	4,067	1,623	4,546	3,749	685	112	1,454	1,427	17	10	1,084	1,079	5	331	330	1	20,780	1,254	22,034		

1. CWS= Community Water System

2. NTNCWS= Non-Transient Non-Community Water System

3. NCWS= Non-Community Water System-Transients

4. A total of 1,614 systems in the URCIS (Round 1) database do not contain population data and, therefore, the population size categories could not be determined for these systems.

III. SDWIS/FED (ROUND 2) DATA OVERVIEW

In this section of the report, the monitoring results for the UCM (1993) list of unregulated contaminants, from Round 2 (approximately 1992-1997), are analyzed and reviewed. These Round 2 data (as discussed in Section I) were derived from the Safe Drinking Water Information System/Federal Version (SDWIS/FED). Significant data review, formatting, and data quality checking and editing were required of these Round 2 data to enable the evaluations and analyses conducted for this initial contaminant occurrence assessment.

III.A. Description of Data

Data for this study were downloaded from EPA's SDWIS/FED database, and include information on unregulated contaminants ("unregulated" contaminants are not formally regulated by EPA, but monitoring of these contaminants is required, and therefore, many occurrence data are available). The unregulated data include records from the second round of unregulated contaminant monitoring (referred to as "Round 2") that were submitted directly into SDWIS/FED (see Section I.B. for more details).

The analyses in this section of the report are based on this SDWIS/FED (Round 2) data, which were generated through monitoring conducted during the second round of required unregulated contaminant monitoring initiated in 1993 (i.e., UCM [1993]). (Although second round monitoring was formally initiated in 1993, SDWIS/FED (Round 2) data can include older data that are comparable to, but predate, the formal second round monitoring.) The SDWIS/FED (Round 2) database includes information on 48 contaminants, including: 1 IOC, 13 SOCs, 20 mandatory VOCs and 14 discretionary VOCs. These data are from 35 States/primacy entities.

III.B. Data Management and Data Quality

The SDWIS/FED (Round 2) data from the 35 States/primacy entities contained a total of 4,350,874 (raw) records. An important and substantial component of this study consisted of the detailed and extensive review of these data records for numerous data quality considerations including reporting consistencies, uniform and valid coding, data completeness, correct and consistent use of analytical units, and any inherent bias in the raw records. (The sources of bias are discussed later in this section.) To ensure data quality for sound and dependable occurrence analysis, extensive data review, checking, and editing were required. This data management and quality review process identified and addressed problematic data or data that could not be uniquely categorized. The following are common types of data problems that were addressed: records with invalid contaminant codes, systems with unknown source water or system type codes, State records for specific contaminants that reported only detections, or entire State records that appeared to have extremely and consistently low analytical results. These types of records were either deleted (such as when water source or system type codes were invalid) or converted (when a data units conversion appeared straightforward). For example, upon detailed review, the data from five States—Kentucky, Michigan, North Carolina, Oregon and Washington—appeared to have been recorded in incorrect units. In these cases, detailed double-checking with the analytical results for other Round 2 States, with URCIS (Round 1) data, as well as with original State data sets (when available) showed that the analytical results appeared to be incorrect (too low) by a constant factor of 1,000. The data were (mistakenly) recorded in µg/L in the database, but actually represented data in mg/L. These data corrections were somewhat straightforward after identifying, reviewing, and cross-checking the analytical results. Other specific data editing examples are listed below in Section III.C.

Another more general data management decision related to data from transient and "non-public" water systems. Transient PWSs were not required by federal rule to monitor for most of the contaminants of interest in this study. However, some States required monitoring, and some transient system contaminant occurrence data is included in SDWIS/FED. By definition, the transient nature of these PWSs confound the types of contaminant exposure assessments ultimately to be conducted for this study. To avoid the problems associated with transient sources in exposure studies, systems with a system type recorded as "NC" (non-community, meaning transient) were not included in the occurrence analyses. In the raw Round 2 data, 24% of the total number of systems were listed as "NC", and were omitted from the occurrence analyses. Also, 0.3% of the total number of systems were identified as "NP", or non-

public. Since this is not a valid system type code (and the exact definition of non-public could not be determined), records designated as NP were also omitted from the analyses. Note that although the systems identified as NC (transient) or NP (non-public) represented slightly more than 24% of the total number of systems, these systems represent only 3.2% of the analytical sample results.

With these data quality improvements, the initial 4,350,874 analytical records from the 35 States/primacy entities for the 48 contaminants decreased to 4,211,446 analytical records for this Round 2 analysis (which includes the approximately 900,000 records with converted units).

III.C. SDWIS/FED (Round 2) Data Bias and Representativeness: Further Data Quality Review and Editing

Subsequent to this initial editing and filtering of the data, a basic analysis of the 4.21 million records was undertaken. Similar to the URCIS (Round 1) data, various descriptive statistics were compiled by State to enable a further more detailed data review to assess data bias and representativeness. Some State data, as described below, are seriously biased because they are so incomplete, and should only be used with caution for any statistical summary of occurrence.

Table III.C.1 summarizes some key results from this next stage of Round 2 data review. The table summarizes the data availability and data quality for 57 primacy entities considered under SDWA (the 50 States, 5 territories and the District of Columbia, and an aggregate entry for the Native American tribes). Of the 57 primacy entities in SDWIS/FED (Round 2), 35 have reported Round 2 data and 22 have not. The table also provides an overview of data quality, and presents the list of 20 States (the States identified with data sets of adequate quality and completeness) that comprise the 20-State cross-section for Round 2 data.

Of the 35 States with Round 2 data, 15 States have incomplete data and/or data of inadequate quality. For two States (Alabama and Mississippi), the percent of samples with detections (with analytical results greater than the minimum reporting level; “Percent Sample Detections”) ranged from 70-100%. These States are listed in Table III.C.1 in the column labeled “Data sets with 100% Detects.” These States reported only (or mainly) analytical records for detections and, hence, their data sets are highly biased (over-representing occurrence) and are therefore excluded from additional analysis. As can be seen in the table, the percent samples with detections typically range from 1% to 8% for States with approximately complete data reporting. An additional secondary check on these two States excluded based on reporting only analytical detections is the measure of the number of samples per PWS. The numbers of samples per PWS for Alabama (2 samples/PWS) and Mississippi (4 samples/PWS) are significantly below the common range of 50 to 250 samples per PWS in most States. In addition to this clear source of bias, we also reviewed the apparent completeness of the data related to the number of PWSs represented.

The number of unique PWSs included in each State’s data sets, and the number of samples per PWS, are also included in Table III.C.1. These summary statistics provide a perspective on the relative completeness of reporting. The number of PWSs included were compared to the total number of non-purchased CWSs and NTNCWSs in the current State inventory, and to the number of non-purchased CWSs and NTNCWSs serving more than 500 people (since not all small systems may have had to conduct this monitoring). Most States approximated or exceeded 100% of one of these comparative inventory numbers. The States listed in the “Too Few Systems” column have data reported from far fewer systems than listed in the current State inventory. For example, New Jersey (17 PWSs) and California (67 PWSs) have far too few systems with data in SDWIS/FED (Round 2) based on this comparison. Therefore, to reduce potential analytical results bias, New Jersey, California, and seven other States are excluded from the analyses since a significant portion of PWSs in these States do not have contaminant occurrence data in SDWIS/FED (Round 2).

States with data quality problems are also indicated in Table III.C.1. The data from Louisiana, Pennsylvania, South Carolina, and Vermont were very problematic. For instance, 100% of the data reported by Louisiana (for a very large number of systems and samples) were non-detections; there were no positive analytical findings of contaminant occurrence in the 164,492 sample results reported. Data

from the other three States were very inconsistent (e.g., data for VOCs within a single State appeared to be reported in mixed units). The level of detail and effort required to check and correct these types of data problems with State data management staff (if possible at all) are beyond the resources and schedule of this study. The data from these four States were excluded from the analysis.

The last column in Table III.C.1, “Residual of Usable States,” lists States with data records that are reasonably balanced and perhaps complete for the systems that did report. These 20 Round 2 primacy entities with adequate and unbiased data were further considered for occurrence analyses.

Table III.C.1. Summary of Data Quantity and Quality in SDWIS/FED (Round 2) for the States, Tribes and Territories.

	State/ Tribes/ Territories	Total Unique PWSs	Percent Sample Detections	Samples per PWS	No Data in Database	Data sets with 100% Detects	Significantly Too Few Systems	Data Quality Problems	States Usable for Cross- Section
1	Alabama	314	94.08%	2		Alabama			
2	Alaska	625	3.10%	194					Alaska
3	<i>American Samoa</i>	-			<i>American Samoa</i>				
4	Arizona	123	2.75%	55			Arizona		
5	Arkansas	577	7.29%	118					Arkansas
6	California	67	6.75%	44			California		
7	Colorado	833	3.72%	143					Colorado
8	Connecticut	87	4.53%	921			Connecticut		
9	Delaware	-			Delaware				
10	Florida	-			Florida				
11	Georgia	-			Georgia				
12	<i>Guam</i>	-			<i>Guam</i>				
13	Hawaii	-			Hawaii				
14	Idaho	-			Idaho				
15	Illinois	-			Illinois				
16	Indiana	120	2.26%	58			Indiana		
17	Iowa	-			Iowa				
18	Kansas	-			Kansas				
19	Kentucky	445	7.50%	125					Kentucky
20	Louisiana	1,394	0.00%	118				Louisiana	
21	Maine	745	0.89%	163					Maine
22	<i>Marianna Islands</i>	-			<i>Marianna Islands</i>				
23	Maryland	1,015	0.62%	140					Maryland
24	Massachusetts	506	3.12%	125					Massachusetts
25	Michigan	3,209	7.26%	97					Michigan
26	Minnesota	1,581	1.66%	198					Minnesota
27	Mississippi	1,155	71.27%	4		Mississippi			
28	Missouri	1,434	6.08%	109					Missouri
29	Montana	-			Montana				
30	Nebraska	-			Nebraska				
31	Nevada	-			Nevada				
32	New Hampshire	849	5.45%	23					New Hampshire
33	New Jersey	17	2.32%	28			New Jersey		
34	New Mexico	755	0.75%	277					New Mexico
35	New York	-			New York				
36	North Carolina	2,263	2.05%	55					North Carolina
37	North Dakota	296	7.73%	59					North Dakota
38	Ohio	2,259	3.45%	291					Ohio
39	Oklahoma	888	3.99%	180					Oklahoma
40	Oregon	1,168	1.66%	75					Oregon

	State/ Tribes/ Territories	Total Unique PWSs	Percent Sample Detections	Samples per PWS	No Data in Database	Data sets with 100% Detects	Significantly Too Few Systems	Data Quality Problems	States Usable for Cross- Section	
41	Pennsylvania	1,424	10.32%	16				Pennsylvania		
42	<i>Puerto Rico</i>	-			<i>Puerto Rico</i>					
43	Rhode Island	117	0.30%	136					Rhode Island	
44	South Carolina	1,047	0.33%	147				South Carolina		
45	South Dakota	27	2.34%	40			South Dakota			
46	Tennessee	78	9.31%	147			Tennessee			
47	Texas	4,863	1.23%	124					Texas	
48	<i>Tribes</i>	26	1.22%	57			Tribes			
49	Utah	-			Utah					
50	Vermont	636	2.65%	74				Vermont		
51	<i>Virgin Islands</i>	-			<i>Virgin Islands</i>					
52	Virginia	-			Virginia					
53	Washington	2,680	2.23%	123					Washington	
54	Washington, D.C.	-			Washington, D.C.					
55	West Virginia	-			West Virginia					
56	Wisconsin	225	1.41%	51			Wisconsin			
57	Wyoming	-			Wyoming					
	TOTAL	33,848	2.95%	124		22	2	9	4	20

The next level of data evaluation assessed the analytical results for each State in even more detail. For example, the minimum, median, 99th percentile, and maximum analytical values were determined for every contaminant in each State. With this more in-depth level of analysis, some additional data quality problems were identified within the data sets of the 20 Round 2 cross-section States. Most of these problems were determined to be specific to certain contaminants (or contaminant groups). With additional data editing efforts, these problems have either been resolved or the problematic portion of data omitted from further analysis.

The Arkansas data problem is limited to the VOCs. There were 73 very similar, low VOC detections at 73 different PWSs (one VOC detection at each of 73 PWSs). The resulting calculated percent of systems and percent of samples with analytical detections for these 73 VOCs was nearly identical. Also, the percent of detections in Arkansas for these VOCs was considerably higher (up to 100 times higher) than that of any other State. Through several communications with the data management staff in Arkansas, it was determined that these records were actually semi-quantitative analytical results at levels below the method reporting level and had been mistakenly recorded as analytical detections (rather than non-detections). To correct this mistake, the Arkansas VOC records with a reported concentration of less than 0.5 µg/L (the EPA VOC detection limit) were changed to non-detects, correcting the problematic analytical results.

Massachusetts SOC data were also problematic. Massachusetts reported Round 2 sample results for SOCs from only 56 PWSs, while reporting VOC results from over 400 PWSs. Massachusetts SOC data also contained an atypically high percentage of systems with analytical detections when compared to all other States. Through communications with Massachusetts data management staff, it was learned that the State's SOC data, as well as the SDWIS/FED (Round 2) Massachusetts SOC data, were incomplete. For instance, the SDWIS/FED (Round 2) data for Massachusetts indicates 18% systems with reported detections of aldrin. The average percent of systems with aldrin detections for all other States was 0.2%. In contrast, Massachusetts data characteristics and quantities for IOCs and VOCs were reasonable and comparable with other States' results. Therefore, Massachusetts was included in the group of 20 SDWIS/FED (Round 2) cross-section States with usable data for IOCs and VOCs, though its SOC data were omitted from occurrence analyses and summaries.

Other types of data problems were present in Pennsylvania. After an initial data review, the raw Pennsylvania records indicated nearly a dozen analytical results with extremely high concentrations of

metribuzin. In fact, the raw data indicated that Pennsylvania was the only State with any analytical results exceeding the health reference level (HRL) for metribuzin. Pennsylvania State data management staff were contacted, and after their review of the data records, it was determined that all the very high metribuzin concentrations that were reported were incorrect (likely with incorrect units) and these records were deleted. (Pennsylvania State data were still not used in the cross-section analyses because there appear to be significantly too few samples per system as well as an unusually high percentage of systems with detections, indicating that many systems without analytical detections did not report results.)

The detailed data review also indicated that New Hampshire data contained only detections for the 14 discretionary VOCs and these records were from no more than four PWSs. New Hampshire IOC and SOC data quality and completeness appeared reasonable. Therefore, the State was retained in the group of 20 cross-section States, but its data for the 14 discretionary VOCs were omitted from the occurrence analyses and summaries. As summarized in Section V.B.2, SDWIS/FED (Round 2) data are aggregated for a representative cross-section of 20 States, which is used as the basis for most of the analyses in this report.

III.D. Data Characteristics Overview

A descriptive overview of the Round 2 data is presented in a series of tables to provide additional insight and perspective on the results. Table III.D.1 shows data elements included in SDWIS/FED for the Round 2 UCM (1993) list contaminants, and Tables III.D.2 to III.D.7 characterize the data as based on number of records, number of systems, source water type, system type, records by year and month, and system size (population-served). As noted, after the initial data management and editing, 4.21 million records were available for analysis from over 33,000 PWSs in the 35 States/entities. The 20 SDWIS/FED (Round 2) State cross-section totals 3.69 million records from slightly more than 27,000 PWSs. The Round 2 cross-section States, therefore, contain nearly 88% of all Round 2 State contaminant occurrence data in SDWIS/FED (Round 2).

Table III.D.1. Data Elements Included in SDWIS/FED (Round 2) for UCM (1993) List Contaminants

Data Element	Description
PWS Identification Number	Nine digit identification number unique to each public water system
Source Identification Number	Three-digit code to identify the source
Source Water Type	
Ground water	Ground water or purchased ground water
Surface water	Surface water, purchased surface water, ground water under the direct influence of surface water or purchased ground water under the direct influence of surface water
Chemical Abstract Services (CAS) Number	Unique numeric designation used to identify specific chemical compounds
Contaminant Name	Commonly used contaminant name
Contaminant Group	
IOC	Inorganic Chemicals
SOC	Synthetic Organic Chemicals
VOC	Volatile Organic Chemicals
Sample Date	Date sample was collected (years 1992 through 1997)
Analysis Result	Concentration of the sample (measured in micrograms/liter)
Detection Identifier	Code to determine if analysis result is greater than or less than the Minimum Reporting
0	Result is less than the Minimum Reporting Level
1	Result is greater than the Minimum Reporting Level
Community Type	

Data Element	Description
CWS	Community Water System
NCWS	Non-Community (Transient) Water System
NTNCWS	Non-Transient Non-Community Water System
Population Served	Population served by the public water system

Table III.D.2 shows the number and percent of sample records and systems according to source water type: approximately 89% of the systems in the 20-State cross-section are classified as ground water and 11% as using surface water. These source water percentages are essentially the same for the entire data set for all 35 States/entities. These SDWIS/FED (Round 2) data contained systems using “ground water under the direct influence of surface water” (GUDI) as a source definition. The classification used follows the regulatory guidelines: if a system uses any surface water (such as a GUDI), it is classified as a surface water system.

Table III.D.2. SDWIS/FED (Round 2) Data - Number of Records and Systems by Source Water Type

SOURCE TYPE	RECORDS		SYSTEMS	
	NUMBER	PERCENT	NUMBER	PERCENT
Total - Ground Water	3,479,102	82.6%	30,085	88.9%
Total - Surface Water	732,344	17.4%	3,763	11.1%
Total	4,211,446	100.0%	33,848	100.0%
20 States - Ground Water	3,085,266	83.5%	24,199	89.3%
20 States - Surface Water	609,619	16.5%	2,909	10.7%
20 States - Total	3,694,885	100.0%	27,108	100.0%

Table III.D.3 shows the number and percent of records and systems by system type. Approximately seventy percent of systems in the 20-State cross-section were coded as a “CWS” (Community Water System) and 30% were coded as “NTNC” (Non-Transient Non-Community Water System). The CWS percent was slightly higher for the entire 35 States/entities data set, and the percent for NTNC correspondingly lower. As discussed earlier in Section III.B., systems coded as “NC” (Non-Community Water System) were excluded from these analyses.

Table III.D.3. SDWIS/FED (Round 2) Data- Number of Records and Systems by System Type

SYSTEM TYPE	RECORDS		SYSTEMS	
	NUMBER	PERCENT	NUMBER	PERCENT
CWS ¹	3,255,222	77.3%	24,357	72.0%
NTNCWS ²	956,224	22.7%	9,491	28.0%
Total	4,211,446	100.0%	33,848	100.0%
20 States - CWS ¹	2,808,341	76.0%	19,055	70.3%
20 States - NTNCWS ²	886,544	24.0%	8,053	29.7%
20 States - Total	3,694,885	100.0%	27,108	100.0%

1. CWS = Community Water System

2. NTNCWS = Non-Transient Non-Community Water System

Tables III.D.4 and III.D.5 show the distribution of data by years and by month (based on actual sample collection or analysis date). The upper half of each table is for the entire 35 States/entities data set while the lower half is for the 20-State cross-section data. Table III.D.4 indicates the amount of data annually collected during the 1992-1997 compliance cycle, with a peak of data collection in 1995. And in Table III.D.5, a fairly uniform distribution of occurrence data by month is shown, suggesting that there should be no inherent seasonal bias in the data.

Table III.D.4. SDWIS/FED (Round 2) Data- Number of Records by Year and Source Water Type

YEAR	# SURFACE WATER RECORDS	# GROUND WATER RECORDS	TOTAL # OF RECORDS	% OF TOTAL RECORDS
Total - 1992	39,487	243,426	282,913	6.7%
Total - 1993	130,993	622,010	753,003	17.9%
Total - 1994	130,127	586,066	716,193	17.0%
Total - 1995	144,006	816,442	960,448	22.8%
Total - 1996	157,152	647,717	804,869	19.1%
Total - 1997	130,579	563,441	694,020	16.5%
Total	732,344	3,479,102	4,211,446	100.0%
20 States - 1992	33,187	187,558	220,745	6.0%
20 States - 1993	115,859	592,555	708,414	19.2%
20 States - 1994	105,673	504,410	610,083	16.5%
20 States - 1995	112,144	711,443	823,587	22.3%
20 States - 1996	136,182	589,788	725,970	19.6%
20 States - 1997	106,574	499,512	606,086	16.4%
20 States - Total	609,619	3,085,266	3,694,885	100.0%

Table III.D.5. SDWIS/FED (Round 2) Data- Number of Records by Month and Source Water Type

MONTH	# SURFACE WATER RECORDS	# GROUND WATER RECORDS	TOTAL # OF RECORDS	% OF TOTAL RECORDS
Total - January	49,458	254,507	303,965	7.2%
Total - February	60,065	248,888	308,953	7.3%
Total - March	75,004	343,572	418,576	9.9%
Total - April	51,874	284,793	336,667	8.0%
Total - May	58,348	275,219	333,567	7.9%
Total - June	66,500	316,326	382,826	9.1%
Total - July	55,382	296,042	351,424	8.3%
Total - August	65,326	302,726	368,052	8.7%
Total - September	75,206	328,634	403,840	9.6%
Total - October	55,215	289,789	345,004	8.2%
Total - November	55,251	241,581	296,832	7.0%
Total - December	64,715	297,025	361,740	8.6%
Total	732,344	3,479,102	4,211,446	100.0%
20 States - January	40,939	221,420	262,359	7.1%
20 States - February	49,405	211,499	260,904	7.1%
20 States - March	65,525	305,597	371,122	10.0%
20 States - April	41,692	257,085	298,777	8.1%
20 States - May	44,374	245,051	289,425	7.8%
20 States - June	55,612	285,159	340,771	9.2%
20 States - July	44,174	262,611	306,785	8.3%
20 States - August	52,087	266,475	318,562	8.6%
20 States - September	65,814	293,692	359,506	9.7%
20 States - October	46,113	254,688	300,801	8.1%
20 States - November	46,492	213,295	259,787	7.0%
20 States - December	57,392	268,694	326,086	8.8%
20 States - Total	609,619	3,085,266	3,694,885	100.0%

Table III.D.6 summarizes the number of systems and population served for each State by population-served size categories and Table III.D.7 provides a more detailed, population and system-type stratification of the number of PWSs by State. Population-served information is available for essentially all systems. Eight systems are listed as having a population-served equal to "0", but these constitute only about 0.02% of the total systems represented (and have insignificant affect on aggregate analyses).

The analytical findings of the occurrence data for the 6 CCL contaminants (aldrin, dieldrin, hexachlorobutadiene, metribuzin, naphthalene, and sulfate) from the 20 SDWIS/FED (Round 2) cross-section States are developed and summarized in Section VI of this report.

Table III.D.6. Total Number of Public Water Systems by State and Population Size Category Contained in the SDWIS/FED (Round 2) Database

State	< 500		501-3,300		3,301-10,000		10,001-50,000		>50,000		TOTAL WITH POP DATA	SYSTEMS WITH NO POP DATA	TOTAL	
	Systems	Pop. Served	Systems	Pop. Served	Systems	Pop. Served	Systems	Pop. Served	Systems	Pop. Served			Systems	Pop. Served
Alaska	516	82,449	88	89,197	16	99,948	5	93,565	1	114,909	626		626	480,068
Alabama	232	13,520	128	199,444	80	452,530	45	946,697	6	1,314,000	491		491	2,926,191
Arkansas	245	49,621	230	325,237	72	413,469	24	395,956	6	500,810	577	1	578	1,685,093
Arizona	102	13,779	33	38,611	7	47,595	7	151,900	3	656,523	152		152	908,408
California	5	1,252	7	14,288	11	65,908	20	586,871	25	3,801,723	68		68	4,470,042
Colorado	600	87,645	179	243,936	34	207,337	33	664,762	13	2,373,200	859		859	3,576,880
Connecticut	4	702	34	56,708	18	124,968	22	601,981	9	1,548,582	87		87	2,332,941
Indiana	77	12,026	22	29,566	18	100,284	9	210,465	2	170,318	128		128	522,659
Kentucky	304	36,175	110	181,895	75	444,806	55	1,126,179	5	1,278,206	549		549	3,067,261
Louisiana	944	132,904	425	642,165	132	745,184	49	908,659	15	2,233,197	1,565		1,565	4,662,109
Massachusetts	280	36,200	88	114,886	67	435,505	92	2,252,879	16	2,990,361	543		543	5,829,831
Maryland	780	116,705	210	237,585	31	167,560	21	480,423	7	4,019,601	1,049	2	1,051	5,021,874
Maine	714	79,877	118	150,203	19	105,646	12	226,155	1	113,560	864		864	675,441
Michigan	10,098	368,683	659	611,150	90	477,254	50	1,026,615	16	2,194,717	10,913		10,913	4,678,419
Minnesota	1,144	143,991	361	469,447	61	342,925	56	1,174,498	12	1,532,855	1,634		1,634	3,663,716
Missouri	959	145,609	377	510,668	95	541,291	34	653,463	7	972,276	1,472		1,472	2,823,307
Mississippi	399	87,494	639	870,441	112	586,717	38	814,699	1	205,895	1,189		1,189	2,565,246
North Carolina	1,747	254,268	384	477,007	94	537,119	76	1,551,578	17	2,281,321	2,318		2,318	5,101,293
North Dakota	190	30,785	90	123,068	7	42,024	8	208,201	1	74,111	296		296	478,189
New Hampshire	726	85,760	101	111,804	15	87,062	11	212,831	2	208,000	855		855	705,457
New Jersey	13	1,530	4	6,700	0	0	1	20,000	0	0	18		18	28,230
New Mexico	575	88,107	135	164,972	25	154,164	17	386,299	3	572,900	755	1	756	1,366,442
Ohio	1,882	236,040	543	648,312	127	795,018	111	2,310,695	28	5,233,485	2,691		2,691	9,223,550
Oklahoma	529	84,271	300	425,444	67	391,360	33	722,050	8	1,460,880	937		937	3,084,005
Oregon	941	128,271	180	264,102	34	205,788	36	741,645	6	949,930	1,197		1,197	2,289,736
Pennsylvania	649	117,468	541	726,644	140	828,059	98	2,184,747	29	5,932,445	1,457		1,457	9,789,363
Rhode Island	99	11,267	13	16,051	6	28,418	9	269,020	3	435,551	130		130	760,307
South Carolina	805	93,828	183	250,076	53	322,170	40	891,882	8	1,074,883	1,089		1,089	2,632,839
South Dakota	13	1,585	9	14,042	5	24,504	1	17,592	0	0	28	1	29	57,723
Tennessee	10	2,102	27	45,058	23	131,093	15	279,173	3	335,205	78		78	792,631
Tribes	9	2,680	13	23,663	5	29,563	0	0	0	0	27		27	55,906
Texas	3,904	455,733	1,458	2,043,889	404	2,191,545	165	3,428,011	44	10,054,831	5,975	5	5,980	18,174,009
Vermont	514	73,516	94	122,789	23	130,636	7	133,820	1	56,000	639		639	516,761
Washington	2,694	269,080	410	493,377	89	502,421	80	1,839,251	14	1,983,113	3,287		3,287	5,087,242
Wisconsin	82	14,931	122	159,230	16	86,342	19	371,826	8	1,209,416	247		247	1,841,745
TOTAL	32,785	3,359,854	8,315	10,901,655	2,071	11,846,213	1,299	27,884,388	320	57,882,804	44,790	10	44,800	111,874,914
20 States	28,927	2,790,537	6,034	7,702,230	1,428	8,170,660	928	19,764,076	210	39,344,617	37,527	9	37,536	77,772,120

Table III.D.7. Number of Public Water Systems by State, System Type and Population Size Category Contained in the SDWIS/FED (Round 2) Database

State	Population Size Category (Population Served by System)												SYSTEMS WITH POP DATA ³	SYSTEMS WITH NO POP DATA ⁴	TOTAL SYSTEMS			
	< 500			501 - 3,300			3,301 - 10,000			10,001 - 50,000						> 50,000		
	TOTAL	System Type		TOTAL	System Type		TOTAL	System Type		TOTAL	System Type					TOTAL	System Type	
	CWS ¹	NTNCWS ²		CWS ¹	NTNCWS ²		CWS ¹	NTNCWS ²		CWS ¹	NTNCWS ²		CWS ¹	NTNCWS ²				
Alaska	515	515		88	88		16	16		5	5		1	1		625		625
Alabama	59	23	36	124	107	17	80	80		45	45		6	6		314		314
Arkansas	244	172	72	230	221	9	72	70	2	24	24		6	6		576	1	577
Arizona	76	56	20	30	25	5	7	6	1	7	7		3	3		123		123
California	4	4		7	7		11	11		20	19	1	25	25		67		67
Colorado	580	465	115	173	159	14	34	32	2	33	32	1	13	13		833		833
Connecticut	4	4		34	34		18	18		22	22		9	9		87		87
Indiana	69	21	48	22	17	5	18	18		9	9		2	2		120		120
Kentucky	203	95	108	107	89	18	75	75		55	55		5	5		445		445
Louisiana	781	627	154	419	372	47	130	130		49	49		15	15		1,394		1,394
Massachusetts	247	132	115	84	48	36	67	67		92	92		16	16		506		506
Maryland	745	340	405	209	106	103	31	30	1	21	21		7	7		1,013	2	1,015
Maine	599	271	328	114	87	27	19	19		12	12		1	1		745		745
Michigan	2,551	845	1,706	515	335	180	82	79	3	49	48	1	12	11	1	3,209		3,209
Minnesota	1,093	452	641	359	307	52	61	60	1	56	56		12	12		1,581		1,581
Missouri	923	726	197	375	332	43	95	94	1	34	34		7	7		1,434		1,434
Mississippi	367	306	61	638	589	49	111	109	2	38	37	1	1	1		1,155		1,155
North Carolina	1,693	1,245	448	383	269	114	94	93	1	76	76		17	17		2,263		2,263
North Dakota	190	147	43	90	89	1	7	7		8	8		1	1		296		296
New Hampshire	720	436	284	101	57	44	15	15		11	11		2	2		849		849
New Jersey	12		12	4		4	0			1	1		0			17		17
New Mexico	574	443	131	135	109	26	25	25		17	17		3	3		754	1	755
Ohio	1,487	597	890	506	358	148	127	125	2	111	111		28	28		2,259		2,259
Oklahoma	480	334	146	300	294	6	67	66	1	33	33		8	8		888		888
Oregon	912	596	316	180	153	27	34	34		36	36		6	6		1,168		1,168
Pennsylvania	619	388	231	539	372	167	139	136	3	98	98		29	29		1,424		1,424
Rhode Island	86	39	47	13	6	7	6	5	1	9	9		3	3		117		117
South Carolina	764	467	297	182	131	51	53	51	2	40	39	1	8	8		1,047		1,047
South Dakota	11	11		9	9		5	5		1	1		0			26	1	27
Tennessee	10	10		27	27		23	23		15	15		3	3		78		78
Tribes	8	8		13	13		5	5		0			0			26		26
Texas	2,843	2,138	705	1,407	1,265	142	401	395	6	165	164	1	44	44		4,860	3	4,863
Vermont	512	313	199	93	80	13	23	23		7	7		1	1		636		636
Washington	2,130	1,849	281	371	320	51	86	85	1	79	79		14	14		2,680		2,680
Wisconsin	62	51	11	120	120		16	16		19	19		8	8		225		225
TOTAL	22,173	14,126	8,047	8,001	6,595	1,406	2,053	2,023	30	1,297	1,291	6	316	315	1	33,840	8	33,848
20 States	18,815	11,837	6,978	5,740	4,692	1,048	1,414	1,392	22	926	923	3	206	205	1	27,101	7	27,108

1. CWS= Community Water System

2. NTNCWS= Non-Transient Non-Community Water System

3. The values in this column indicate the number of PWSs that have population-served information. Although some PWS records contained no population served information, the missing population-served values were acquired from the more complete population records of the 1999 Needs Survey.

4. This column indicates the number of PWSs for which no population-served information is contained in SDWIS/FED or the 1999 Needs Survey, and therefore population size categories for these systems could not be determined.

IV. NATIONAL INORGANICS AND RADIONUCLIDES SURVEY (NIRS) DATA

In this section of the report, the EPA's National Inorganics and Radionuclides Survey (NIRS) data are described and reviewed. NIRS occurrence data are assessed for the two CCL inorganic chemicals (IOCs) of interest, manganese and sodium, and are applicable for PWSs served by ground water.

IV.A. Description of Data

The NIRS survey was conducted by EPA specifically to provide data on the occurrence of a select set of radionuclides and inorganic chemicals (IOCs) being considered for National Primary Drinking Water Regulations (NPDWRs). The NIRS provides contaminant occurrence data from 989 community water systems served by ground water sources. Each of these randomly (statistically) selected public water systems was sampled a single time between 1984 and 1986. The selection of this group of PWSs was designed so that the contaminant occurrence results from these PWSs are representative of national occurrence of contaminants in ground water systems.

The NIRS sample design included random selection of a number of systems from each size category in proportion to the number of PWSs in those size categories nationally. The resulting sample number of systems represented approximately 2% of the nation's community ground water supply in each system size category. Therefore, since there are many more small than large PWSs in the US, most of the NIRS data are from smaller systems. In aggregate, approximately 95% of the analytical sample results in the entire NIRS database indicate no detections of the contaminants sampled and analyzed. The NIRS database includes information on 42 contaminants, including: 36 IOCs (including 10 regulated IOCs), 2 regulated radionuclides, and 4 unregulated radionuclides. The data are from 49 States (there are no data from Hawaii), as well as Puerto Rico. Two contaminants from the NIRS are used here for CCL analyses: manganese and sodium.

IV.B. Representativeness

By design, the data collected and contained in the NIRS database are nationally representative for ground water systems, and furthermore, can be divided into strata based on system size for additional statistical resolution. Especially when compared to the URCIS and SDWIS/FED databases, there are few contaminant occurrence data quality or completeness issues with the NIRS data set. For example, some States have no data in URCIS or SDWIS/FED and many State records in URCIS or SDWIS/FED reflect incomplete data (e.g., records of only analytical detections, or records from only a small percentage of PWSs within a State); therefore, these databases must be extensively reviewed and modified to provide data that is reflective of national occurrence of contaminants. In contrast, the NIRS contains analytical results that were specifically collected to establish a nationally representative sample, so the sample is "complete and adequate" simply by correct implementation of the sample selection design. Also, there are often computational (statistical) problems resulting from multiple laboratory analytical detection limits that must be addressed in the analysis of occurrence data. In the case of NIRS (for the two IOCs being evaluated) analytical methods with uniform detection limits were employed. Therefore, the extensive concerns and problems with data quality, completeness, and representativeness encountered in the use of URCIS and SDWIS/FED data are not issues when considering the use of the NIRS data.

NIRS was structured as a stratified, random sampling of the nation's community ground water supplies as they existed in the mid-1980s. The stratification for sample selection was based on system size. However, the sampling frame used in NIRS was not specifically designed to be representative of ground water supplies on a State-by-State, regional, or other geographic basis.

IV.C. Data Characteristics Overview

A descriptive overview of the data is presented in a series of tables to provide additional insight and perspective on the results (remembering that the NIRS sampling was designed to be a randomly selected, nationally representative survey for ground water systems). The NIRS database included data

from 989 PWSs from 49 States and Puerto Rico. Summary results for all States are included in the following results tables.

Table IV.C.1 shows data elements included in NIRS. Note that a special data element was developed in NIRS to distinguish between a detection and a result below the minimum reporting level. When a value was flagged as a “non-detection”, the detection limit, or MRL, was recorded in the analytical result field.

Table IV.C.1. Data Elements Included in NIRS Database

Data Element	Description
Sample Number	NIRS Sample Number (unique four digit identification number)
City	City served by the public water system
State	State served by the public water system
Zip	Zip code served by public water system
Contaminant	Identified by Molecular Formula
Sample Date	Date sample was collected (years 1984 through 1986)
Analysis Result	Concentration of the sample (measured in milligrams/liter)
Detection Identifier	Code to determine if analysis result is greater than or less than the Minimum Reporting Level
N	Result is less than the minimum detection limit
D	Result is greater than the minimum detection limit
POP_1QUART	Population served by public water system during 1 st quarter of calendar year
POP_2QUART	Population served by public water system during 2 nd quarter of calendar year
POP_3QUART	Population served by public water system during 3 rd quarter of calendar year
POP_4QUART	Population served by public water system during 4 th quarter of calendar year
AVG POP	Average Population served by the public water system during year

Tables IV.C.2 and IV.C.3 show the distribution of data by years and by month across all years. The data were collected between 1984 and 1986, with a peak of data collection in 1985. Somewhat more samples were collected in 1985, and a somewhat larger proportion of samples was collected in the fall months of September, October, and November (though seasonal effects for the occurrence of IOCs in groundwater is likely not high). Table IV.C.4 summarizes the number of systems by population-served size categories. The analytical findings of the occurrence data for the two CCL contaminants from the NIRS data are developed and summarized in Section VI.C of this report.

Table IV.C.2. NIRS Data- Number of Records by Year

YEAR	NUMBER OF RECORDS	PERCENT OF TOTAL RECORDS
1984	268	27.1%
1985	466	47.1%
1986	255	25.8%
TOTAL	989	100.0%

Table IV.C.3. NIRS Data- Number of Records by Month

MONTH	NUMBER OF RECORDS	PERCENT OF TOTAL RECORDS
Total - January	19	1.9%
Total - February	29	2.9%
Total - March	63	6.4%
Total - April	92	9.3%
Total - May	70	7.1%
Total - June	68	6.9%
Total - July	92	9.3%
Total - August	94	9.5%
Total - September	118	11.9%
Total - October	153	15.5%
Total - November	132	13.3%
Total - December	59	6.0%
Total	989	100.0%

Table IV.C.4. Total Number of Public Water Systems by State and Population Size Category Contained in the NIRS Database

State	< 500		501 - 3,300		3,301 - 10,000		10,001 - 50,000		> 50,000		TOTAL	
	Systems	Pop. Served	Systems	Pop. Served	Systems	Pop. Served	Systems	Pop. Served	Systems	Pop. Served	Systems	Pop. Served
Alaska	8	957	0	0	0	0	0	0	0	0	8	957
Alabama	1	40	6	7,786	1	7,000	0	0	0	0	8	14,826
Arkansas	0	0	7	9,563	1	7,800	1	12,500	0	0	9	29,863
Arizona	9	1,475	5	4,690	0	0	2	34,500	0	0	16	40,665
California	45	4,502	7	12,041	6	36,630	0	0	0	0	58	53,173
Colorado	7	955	3	2,800	0	0	0	0	3	261,661	13	265,416
Connecticut	22	3,547	0	0	0	0	1	13,400	0	0	23	16,947
Delaware	4	451	5	7,536	1	4,500	0	0	0	0	10	12,487
Florida	37	6,314	11	17,196	4	23,630	1	35,000	0	0	53	82,140
Georgia	17	2,578	3	3,539	2	7,820	1	13,000	1	70,000	24	96,937
Iowa	14	2,988	11	16,031	2	12,278	1	15,528	0	0	28	46,825
Idaho	8	719	1	580	2	14,800	1	10,500	0	0	12	26,599
Illinois	24	5,438	15	15,339	4	20,348	2	29,904	0	0	45	71,029
Indiana	8	1,438	9	11,833	1	4,870	1	12,000	0	0	19	30,141
Kansas	2	262	3	2,804	1	7,272	0	0	0	0	6	10,338
Kentucky	6	882	2	3,460	0	0	0	0	0	0	8	4,342
Louisiana	14	1,798	10	14,790	2	13,967	0	0	0	0	26	30,555
Massachusetts	2	500	3	4,900	2	14,383	0	0	0	0	7	19,783
Maryland	5	755	0	0	1	9,357	0	0	0	0	6	10,112
Maine	6	779	1	828	0	0	0	0	0	0	7	1,607
Michigan	13	2,168	9	10,926	3	20,270	0	0	0	0	25	33,364
Minnesota	13	3,166	4	5,340	1	4,506	1	13,750	0	0	19	26,762
Missouri	12	2,388	6	7,634	3	13,804	0	0	0	0	21	23,826
Mississippi	13	3,565	9	11,595	2	13,527	2	25,453	0	0	26	54,140
Montana	8	853	3	4,092	0	0	0	0	0	0	11	4,945
North Carolina	36	4,942	8	7,003	0	0	0	0	0	0	44	11,945

State	< 500		501 - 3,300		3,301 - 10,000		10,001 - 50,000		> 50,000		TOTAL	
	Systems	Pop. Served	Systems	Pop. Served	Systems	Pop. Served	Systems	Pop. Served	Systems	Pop. Served	Systems	Pop. Served
North Dakota	13	2,415	5	4,769	0	0	1	10,099	0	0	19	17,283
Nebraska	16	3,392	3	2,621	0	0	0	0	0	0	19	6,013
New Hampshire	10	1,018	0	0	0	0	0	0	0	0	10	1,018
New Jersey	4	320	1	2,000	1	9,000	0	0	0	0	6	11,320
New Mexico	5	928	2	3,250	0	0	0	0	0	0	7	4,178
Nevada	0	0	2	1,350	0	0	0	0	0	0	2	1,350
New York	45	6,979	10	14,390	0	0	2	62,953	0	0	57	84,322
Ohio	15	1,869	9	16,194	0	0	1	15,320	0	0	25	33,383
Oklahoma	8	1,184	1	1,500	3	16,880	0	0	0	0	12	19,564
Oregon	5	1,455	2	1,350	1	5,000	0	0	0	0	8	7,805
Pennsylvania	30	3,594	5	6,286	1	5,100	0	0	0	0	36	14,980
Puerto Rico	0	0	0	0	1	5,764	0	0	0	0	0	5,764
Rhode Island	1	30	0	0	0	0	0	0	0	0	1	30
South Carolina	15	1,657	3	5,693	0	0	0	0	0	0	18	7,350
South Dakota	3	216	4	5,062	1	4,060	0	0	0	0	8	9,338
Tennessee	4	811	4	7,683	0	0	1	10,784	0	0	9	19,278
Texas	52	7,859	17	24,019	1	3,400	4	88,100	0	0	74	123,378
Utah	7	1,581	2	4,425	1	5,500	0	0	0	0	10	11,506
Virginia	25	2,585	4	4,226	1	8,370	0	0	0	0	30	15,181
Vermont	10	1,363	2	2,425	0	0	0	0	0	0	12	3,788
Washington	46	4,730	5	3,990	0	0	1	14,205	0	0	52	22,925
Wisconsin	19	3,239	8	8,715	3	14,700	0	0	0	0	30	26,654
West Virginia	5	581	2	1,110	0	0	1	14,000	0	0	8	15,691
Wyoming	3	310	0	0	0	0	0	0	0	0	3	310
TOTAL	675	101,576	232	303,364	53	314,536	25	430,996	4	331,661	989	1,482,133

IV.D. Supplemental IOC Data

Efforts were made to identify data sources from surface water systems to supplement the NIRS data since they derive only from ground water systems. There were no data for manganese or sodium in either the URCIS or SDWIS/FED databases. Sulfate data were available in both URCIS and SDWIS/FED, for both surface and ground water systems, and were analyzed for this report (with findings presented in Section VI).

Additional State data sets, obtained directly from the States, were also reviewed for supplemental IOC data. Detailed data review has shown that these State data sets contain more analytical records than do the State data sets downloaded from SDWIS/FED covering the same monitoring periods. Nonetheless, there are still a very limited number of analytical records for occurrence of the two CCL priority IOCs in these eight State data sets (see Table IV.D.1).

Table IV.D.1. Number of Analyses and Public Water Systems in the 8 Cross-Section State Data Sets for Manganese and Sodium by Source Water Type

State	Manganese				Sodium			
	Number of Samples		Number of PWSs		Number of Samples		Number of PWSs	
	GW	SW	GW	SW	GW	SW	GW	SW
Alabama	934	409	365	69	917	410	366	69
California	29,923	2,075	3,176	342	25,111	2,383	3,043	336
Illinois	275	69	160	67	313	70	160	67
Michigan	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Montana	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
New Jersey	2,795	401	1,147	32	3,941	476	1,411	33
New Mexico	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Oregon	409	365	69	30	1,506	813	863	169

N/A = No data available for contaminant

For the analyses conducted in the CMR Report (USEPA, 1999), a “national cross-section” was constructed using the data obtained directly from these specific eight States. In aggregate, these eight States provide contaminant occurrence data that are indicative or representative of national occurrence. Though some of the States in Table IV.D.1 have a large amount of IOC data, the obviously incomplete data record for the aggregation of the eight States prohibits the use of these data as the basis of any national occurrence analyses.

V. DEVELOPING A NATIONALLY REPRESENTATIVE PERSPECTIVE

As discussed in Sections I and II, the URCIS database contains contaminant occurrence data from a total of 40 States, and territories (38 States plus Washington, D.C. and Virgin Islands). However, data from many States are incomplete and biased. Our evaluation suggested that data from 25 States (plus D.C. and the Virgin Islands, totaling 27 primacy entities) were most complete and might be used to generate national summary statistics on occurrence of the contaminants in URCIS. Data from 25 of the 50 States is indeed a substantial sample. The data from all of these States could simply be aggregated to compute a composite, national occurrence value for a contaminant. However, even a 50% sample does not guarantee that the sample is representative because the data were not collected in a systematic or random statistical framework. The 50% sample could be heavily skewed to low-occurrence or high-occurrence settings. Hence, the State data were evaluated to assess how representative they were across the range, from high to low, of likely contaminant occurrence and across the spatial/hydrologic diversity of the nation. Based on these assessments, the construction of a cross-section of States from the available State data sets would provide a reasonable representation of national occurrence.

There are many sophisticated statistical methods that can be applied to analyze limited (and biased) data. However, this first stage of evaluating the URCIS (Round 1) occurrence data was to establish a representative cross-section of data for first-stage analyses. This representative cross-section would also be the basis for subsequent analyses as deemed necessary and appropriate by the findings. For this initial analysis, we used the approach that was developed for the CMR Report (USEPA, 1999) to establish a national cross-section from State SDWA contaminant databases. This approach was supported by peer reviewers and by stakeholders as providing a clear, repeatable, and understandable approach. It

cannot provide a “statistically representative” sample, because the data were not selected in an appropriate fashion. The resultant data should, however, provide a clear indication of the central tendency of the national data.

V.A. Methods

For the CMR Report (USEPA, 1999), a protocol was developed for determining a representative cross-section of States for occurrence analysis. In the CMR analysis, contaminant data were available from 14 States. The State data were evaluated for completeness and quality, similar to the analysis in this report. The balance of the States were evaluated to establish a national cross-section. In the CMR process, eight States were selected for use in a national analysis as providing the best data quality and completeness, and for providing a balanced national cross-section of occurrence data. The CMR process was based on evaluating the States’ pollution potential and geographic coverage in relation to all States. The URCIS (Round 1) and SDWIS/FED (Round 2) States were evaluated using the same selection process.

Two broad factors were considered in the assessment of a representative cross-section: pollution potential and geographic or spatial diversity. Pollution potential is considered to ensure that the selection of cross-section States represents the range of likely high, medium, and low contaminant occurrence. Geographic consideration is included so that the wide range of climatic and hydrogeologic conditions across the United States are represented, again balancing the varied conditions that affect transport and fate of contaminants. Many past EPA studies have shown that some simple measures, such as population (or population density) are valid indicators of pollution, because it is human activity and its related land use that is the source of most pollutants, particularly the organic chemicals. Various demographic and other factors were evaluated as independent measures or indicators of pollution potential. (Over 30 factors were evaluated in the CMR report; only the final approach is described here.)

For this analysis, two primary pollution potential indicators were used to evaluate the representativeness of the States. The first factor indicates the pollution potential from manufacturing and the second factor refers to pollution potential from agriculture in each State. (Manufacturing and population density typically are related to the occurrence of VOCs, many of which are industrial chemicals, for example. Most of the SOCs of concern are pesticides, and the greatest use of most of these is in agriculture.) States were ranked from 1 to 50 for each factor and divided into quartiles based on the ranking. The rankings were reviewed to assess if States could be selected in approximate balance from each quartile. In addition, some secondary pollution potential indicators were also considered to further ensure that the data were representative.

V.A.1. Manufacturing Indicators

Numerous factors were considered as potential indicators of manufacturing-related pollution, including EPA’s Toxics Release Inventory (TRI) (including total releases, releases per square mile, and releases excluding air releases), the number of manufacturing establishments, the number of manufacturing establishments per square mile, the number of manufacturing employees, the value added by manufacturers, and the value added per capita. This information was taken directly from the *1995 Annual Survey of Manufactures* (USDOC, 1997), the *1992 Census of Manufactures* (USDOC, 1996), and the *1995 Toxics Release Inventory* (USEPA, 2001). All factors were each considered in terms of their inherent value as pollution potential indicators, their range and variance (in providing a relative ranking of the States), and their inter-relationships.

The total TRI releases per square mile, number of manufacturing establishments per square mile, and value added per capita were considered the three most useful indicators. The TRI was considered useful because it is a measure of how many pounds of toxic chemicals are released within the State. While there are problems with the TRI (e.g., some inconsistent release estimation techniques; omission of many small establishments, or those with releases below specified thresholds), it is valid to use as a direct indicator of potential pollutants released. The number of manufacturing establishments takes into account how many factories are actually engaged in manufacturing and thus how many establishments potentially contribute to pollution. By breaking down the number of manufacturing establishments per square mile,

the size of the State is also taken into account. The final factor that was considered to be viable was the value added by manufacturers per capita. Initially this seemed to be a well-suited measure because of the presumed correlation between value added and the level of production (and by-product pollution) within the State. The problem with this measure (and also with the measure of number of manufacturing establishments per square mile), is that it does not take into account the variation in pollution released by different industries. For example, an industry that adds a lot of value to a product may cause little pollution while another industry that does not add much value may contribute more pollution.

The data clearly showed a close correlation between the number of manufacturing establishments per square mile and the population density in each State, as well as a clear linear association with the total TRI pounds released/square mile, number of manufacturing employees, and total value added. Hence, the number of manufacturing establishments per square mile was used as the primary indicator because it is a simple measure of how many establishments are actually engaged in manufacturing and thus are potentially polluting sources of drinking water. The TRI total pounds released per square mile was used as a secondary factor in determining representativeness. Squillace *et al.* (1999) found a significant correlation between VOC occurrence in ambient ground water and population density in a USGS national NAWQA study. As noted, population density and manufacturing density are highly correlated. Manufacturing density and TRI data were used in this ranking because they were considered more direct measures of pollution potential for this study.

V.A.2. Agricultural Indicators

There is no complete measure of pesticide usage by States that is readily available. Thus, a variety of factors were considered to assess potential organic chemical pollution from agriculture in each State. These included the percent of the State's population that is classified as rural, the percent of land in the State that is crop land, the percent of land that is grassland pasture and rangeland (a possible inverse indicator), and total farm agricultural chemical expenses. Like the manufacturing factors, these agricultural variables were considered in terms of their value in indicating potential sources of pollution and were plotted against one another to determine how closely they are correlated.

Of these factors, total farm agricultural chemical expenses was considered to be the best indicator of potential pollution. The percent of the State's population that lives in rural areas does not necessarily relate to agricultural chemical use or crop land. There is, of course, a correlation between crop land and agricultural chemical use. However, there are notable exceptions such as Florida and California which use a large amount of agricultural chemicals despite having more limited crop land area. While there are some incomplete surveys of pesticide use, the *1992 Census of Agriculture* (USDOC, 1994) measure of dollars spent on agricultural chemicals was a more consistent and complete measure.

V.B. Representative Cross-Section of States

Table V.B.1 summarizes the pollution potential rankings for the 50 States, highlighting those included in URCIS (Round 1). Although a total of 38 State data sets, as well as data for Washington D.C. and Virgin Islands, are included in URCIS (Round 1) data, not all States were usable in constructing a "representative" cross-section, as discussed in Section II. Thirteen States contained only detections or too few analytical records, or records from too few PWSs and were eliminated from consideration because of their inherent bias. The data from Washington, D.C. and Virgin Islands were excluded from this State-level analysis because it was difficult to evaluate them in relation to complete State data, for the current purposes. (The number of data from these entities is few and they can easily be added in for later review.) The data quality screening left 25 States eligible for the national cross-section. As noted in Section II, New York was also excluded because of inherent data quality problems, leaving 24 States.

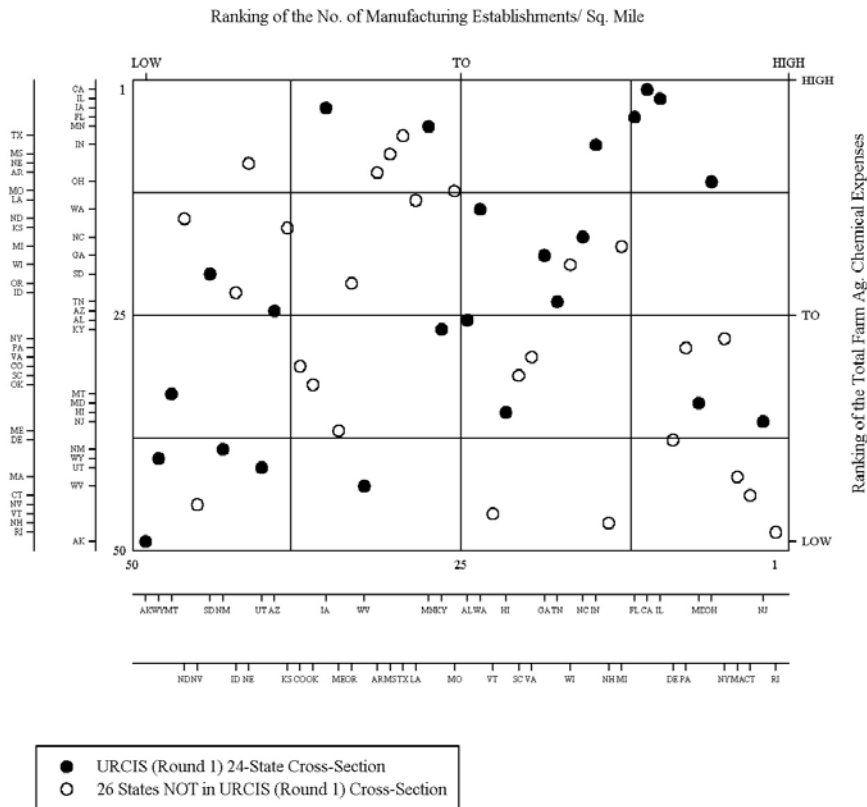
Table V.B.1. Ranking of States based on Number of Manufacturing Establishments per Square Mile. URCIS (Round 1) 24-State Cross-Section in Bold.

State	Ranking of the Number of Manufacturing Establishments/ Sq. Mile	Ranking of the Total Farm Ag. Chemical Expenses
Rhode Island	1	49
New Jersey	2	37
Connecticut	3	45
Massachusetts	4	43
New York	5	28
Ohio	6	11
Maryland	7	35
Pennsylvania	8	29
Delaware	9	39
Illinois	10	2
California	11	1
Florida	12	4
Michigan	13	18
New Hampshire	14	48
Indiana	15	7
North Carolina	16	17
Wisconsin	17	20
Tennessee	18	24
Georgia	19	19
Virginia	20	30
South Carolina	21	32
Hawaii	22	36
Vermont	23	47
Washington	24	14
Alabama	25	26
Missouri	26	12
Kentucky	27	27
Minnesota	28	5
Louisiana	29	13
Texas	30	6
Mississippi	31	8
Arkansas	32	10
West Virginia	33	44
Oregon	34	22
Maine	35	38
Iowa	36	3
Oklahoma	37	33
Colorado	38	31
Kansas	39	16
Arizona	40	25
Utah	41	42
Nebraska	42	9
Idaho	43	23
New Mexico	44	40
South Dakota	45	21
Nevada	46	46
North Dakota	47	15
Montana	48	34
Wyoming	49	41
Alaska	50	50
	<i>1=highest</i>	<i>1=highest</i>

All 50 States are ranked based on the number of manufacturing establishments per square mile. Each State's rank in total farm agricultural chemical expenses is also indicated. The 38 States in highlighted rows are the States with data in the URCIS (Round 1) database. The 24 States in bold are the selected URCIS (Round 1) cross-section States. Ranking quartiles are indicated by bold lines.

This group of 24 States (the States with the best data quality) were evaluated for their pollution potential rankings and geographic coverage. Figure V.B.1 summarizes the representativeness of the pollution potential distribution of the 24 cross-section States. As illustrated, the 24 States are well distributed based on pollution potential indicators, with a uniform distribution from high to low potential for both key pollution indicators. Figure V.B.2 shows the geographic distribution of these 24 cross-section States as well as the distribution of the States not in the cross section. Spatially the 24 States cover a substantial portion of the country. While coverage is lacking from the south-central U.S. and New England, these States provide broad coverage from around the country, from the major climatic regions. The 24 States include about 49% of the PWSs nationally and about 56% of population served by PWSs.

Figure V.B.1. Distribution of State Rankings for Manufacturing Establishments / Sq. Mile vs. Farm Ag. Chemical Expenses. Highlighting URCIS (Round 1) 24 Cross-Section States



(Unfortunately, the same eight States could not be used in this analysis because data were not available for all of them. The eight State cross-section here in the incremental build-up, though, is a close approximation to the eight States used in the CMR.) For this comparison, the first cross-section is composed of four States, and additional States are added to this in increments. Hence, the first group of four States (NJ, GA, IA, and MT) is composed of one State from each quartile, with the States covering a broad geographic range. Additional States were added, maintaining the distribution of pollution potential and spatial diversity, to develop composite 8- and 13-State cross-sections. The statistical data from these aggregations can be compared with the results from the 24 States, the 16 States/territories with the biased data, and the results of all 40 States/territories, to evaluate and illustrate the differences.

The States included in each cross-section or group are:

4 States: NJ, GA, IA, MT

8 States: NJ, GA, IA, MT, CA, NC, KY, NM

13 States: NJ, GA, IA, MT, CA, NC, KY, NM, OH, TN, AL, SD, AZ

24 States: NJ, GA, IA, MT, CA, NC, KY, NM, OH, TN, AL, SD, AZ, AK, FL, HI, IL, IN, MD, MN, UT, WA, WV, WY

16 (biased) States: AR, CO, DC, DE, LA, MA, MI, MO, MS, NE, NH, NV, NY, TX, VI, VT

All (40) States: NJ, GA, IA, MT, CA, NC, KY, NM, OH, TN, AL, SD, AZ, AK, FL, HI, IL, IN, MD, MN, UT, WA, WV, WY, AR, CO, DC, DE, LA, MA, MI, MO, MS, NE, NH, NV, NY, TX, VI, VT

Figure V.B.1.a shows the pollution potential ranking distribution of the first eight States and the last 16 States used in the 24-State cross-section, for comparison. Table V.B.1.a, summarizes occurrence results from the various State groups for five of the URCIS (Round 1) contaminants: a relatively high-occurrence VOC, trichloroethylene (TCE); a very high occurrence VOC that occurs from pollutant sources and as a THM-chlorination by-product, chloroform; and three more typical, low occurrence VOCs, bromobenzene, hexachlorobutadiene, and 1,3-dichloropropene.

Figure V.B.1.a. Distribution of State Rankings for Manufacturing Establishments / Sq. Mile vs. Farm Ag. Chemical Expenses. URCIS (Round 1) 24-State Representative Cross-Section Build-up

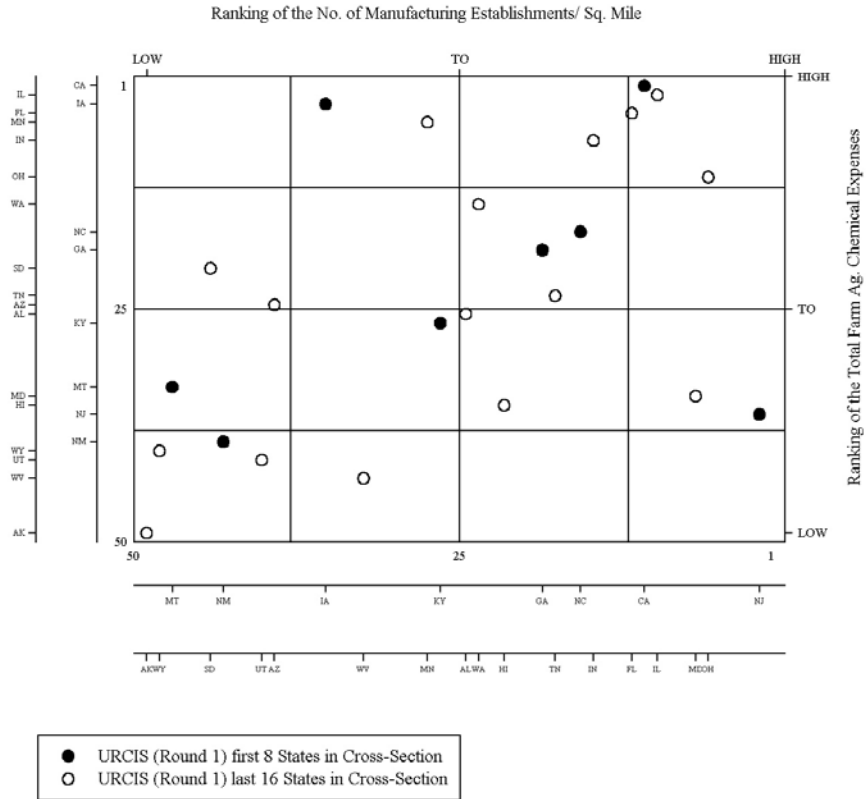


Table V.B.1.a. Summary and Comparison of Occurrence Results for Incremental National Cross-Sections in URCIS (Round 1).

States	TOTAL # SAMPLES	TOTAL UNIQUE PWS	% SAMPLES > MRL	% PWS > MRL	% POPULATION > MRL	% PWS > HRL/MCL*	MEDIAN DETECTS (µg/L)
BROMOBENZENE							
4 States	8,443	4,038	0.02%	0.02%	0.03%	N/A	1.85
8 States	14,059	5,599	0.06%	0.13%	2.21%	N/A	3.65
13 States	34,597	9,630	0.05%	0.15%	2.69%	N/A	1.48
24 States	56,174	16,450	0.07%	0.19%	3.17%	N/A	1.00
14 States/ Biased ¹	3,457	488	0.23%	1.64%	0.84%	N/A	1.00
All (40) States	59,631	16,938	0.08%	0.24%	3.07%	N/A	1.00

States	TOTAL # SAMPLES	TOTAL UNIQUE PWS	% SAMPLES > MRL	% PWS > MRL	% POPULATION > MRL	% PWS > HRL/MCL*	MEDIAN DETECTS (µg/L)
CHLOROFORM							
4 States	9,538	4,245	31.10%	30.67%	82.81%	0.05%	5.40
8 States	28,757	9,303	27.17%	23.59%	76.36%	0.03%	3.00
13 States	40,392	12,717	25.74%	24.74%	77.24%	0.02%	4.00
24 States	63,826	20,184	28.38%	28.63%	79.17%	0.02%	4.80
14 States/ Biased ¹	4,919	1,038	66.62%	77.75%	95.09%	0.00%	6.40
All (40) States	68,745	21,222	31.11%	31.03%	81.04%	0.02%	5.00
1,3-DICHLOROPROPENE							
4 States	4,157	2,220	0.07%	0.14%	3.65%	0.00%	1.30
8 States	8,390	3,366	0.04%	0.09%	1.26%	0.00%	1.30
13 States	24,733	6,667	0.02%	0.09%	0.73%	0.00%	1.15
24 States	31,104	9,164	0.06%	0.16%	0.91%	0.00%	1.00
14 States/ Biased ¹	869	143	1.04%	2.80%	3.28%	0.00%	2.00
All (40) States	31,973	9,307	0.09%	0.20%	0.95%	0.00%	1.00
HEXACHLOROBUTADIENE							
4 States	1,630	801	0.37%	0.75%	0.56%	0.25%	0.12
8 States	7,950	2,797	0.08%	0.21%	0.06%	0.07%	0.12
13 States	27,020	6,669	0.08%	0.28%	0.67%	0.12%	0.83
24 States	42,839	12,284	0.13%	0.35%	0.86%	0.11%	0.25
14 States/ Biased ¹	2,710	484	0.11%	0.62%	0.06%	0.62%	6.00
All (40) States	45,549	12,768	0.13%	0.36%	0.82%	0.13%	0.30
TRICHLOROETHYLENE*							
4 States	4,235	2,402	4.53%	3.04%	0.43%	0.87%	1.85
8 States	28,464	7,346	22.83%	4.61%	63.49%	1.51%	3.10
13 States	38,274	10,135	17.82%	3.93%	59.39%	1.30%	3.10
24 States	53,674	15,290	13.80%	3.54%	55.49%	0.99%	3.00
14 States/ Biased ¹	4,713	628	28.37%	24.84%	34.73%	9.08%	3.00
All (40) States	58,387	15,918	14.97%	4.38%	55.00%	1.31%	3.00

¹ 14 States plus DC, VI

The comparative results illustrate several points. The representative cross-section results for the percentage of systems (or percentage of samples, or population served by systems) with detections are quite stable and consistent for the 8-, 13- and 24-State cross-sections. The 4-State data are generally more variable, and more obviously different from the larger cross-sections. Sometimes the four State values are greater, sometimes smaller than the 8-, 13-, and 24-State values. For the 8-, 13-, and 24-State data, the values for the percent samples and the percent population vary more than the percent systems, as would be expected.

The values for the percent samples or systems with detections are always greater for the 16 biased States, typically much greater than the cross-section States, i.e., 25% of PWS with detections of TCE compared to 4% for the national cross-section. (The one exception is for the percent of

hexachlorobutadiene samples with detections.) The percent population using drinking water with detections is not always greater for the 16 biased States, but this is in part because the population data are so incomplete for these States. Because the 16 biased States have such a strong bias of increased occurrence, occurrence results using all 40 States are typically greater than the national cross-section, as well.

The 8-State through the 24-State cross-sections provide comparable results. The results are consistent and all look usable to provide a national cross-section that can provide an estimate of contaminant occurrence. Obviously, having data from more States is desirable, as long as they are balanced related to pollution potential and spatial coverage. Table V.B.1.b shows the results for TCE with three other comparisons. Results from five high-occurrence States (i.e., all in the top quartile for manufacturing density), five low-occurrence (all lowest quartile) and a regionally-biased sample (4 Midwestern States) are shown for comparison. These comparative data further support the selection approach and illustrate the value of establishing the national cross-section. While more data is desirable, it is evident that having an appropriately selected 8-State sample is more representative than the wrong 16 States. The validity and value of the national cross-section sample could be further tested if necessary.

Table V.B.1.b. Trichloroethylene Occurrence for the URCIS (Round 1) Cross-Section States and Comparative Biased Groups of States

States	TOTAL # SAMPLES	TOTAL UNIQUE PWS	% SAMPLES > MRL	% PWS > MRL	% POPULATION > MRL	% PWS > MCL	MEDIAN DETECTS (µg/L)
TRICHLOROETHYLENE							
4 States	4,235	2,402	4.53%	3.04%	0.43%	0.87%	1.85
8 States	28,464	7,346	22.83%	4.61%	63.49%	1.51%	3.10
13 States	38,274	10,135	17.82%	3.93%	59.39%	1.30%	3.10
24 States	53,674	15,290	13.80%	3.54%	55.49%	0.99%	3.00
14 States / Biased ¹	4,713	628	28.37%	24.84%	34.73%	9.08%	3.00
All (40) States	58,387	15,918	14.97%	4.38%	55.00%	1.31%	3.00
High Occ. ²	28,227	7,304	23.25%	4.12%	63.84%	1.45%	3.10
Low Occ. ³	5,952	1,974	0.66%	0.96%	1.00%	0.30%	1.90
Regional Occ. ⁴	9,107	2,085	6.25%	2.69%	24.14%	1.06%	1.40

1. 14 States plus DC, VI

2. High Occurrence States: CA, IL, MD, NJ, OH

3. Low Occurrence States: AZ, MT, NM, SD, UT

4. Regional Occurrence States: IA, IL, IN, OH

This consistency of analytical results among the different national cross-section groups supports the validity of the criteria used to construct the State aggregations. Again, while the data from these cross-section States cannot be stated to be “statistically representative,” their distribution should provide a clear indication of national central tendency of occurrence. The results using the 24-State cross-section will be further described in the following section of this report.

V.B.2. SDWIS/FED (Round 2) 20-State Cross-Section

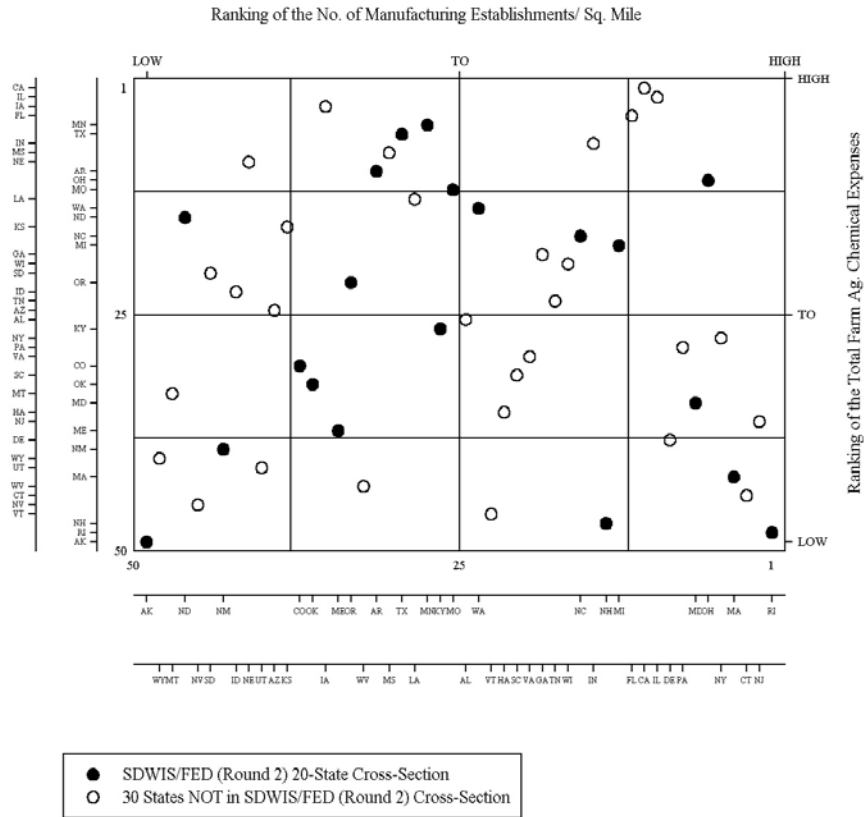
After the checking and editing processes of the SDWIS/FED (Round 2) data, a group of 20 States –with the exceptions noted in Section III.C.– remained for which the data were relatively unbiased, complete, and of good quality. These 20 SDWIS/FED (Round 2) cross-section States were then evaluated for their pollution potential rankings and geographic coverage. The pollution potential ranking of all States (with these 20 cross-section States identified in bold) are presented in Table V.B.2.a. In Figure V.B.2.a, the distribution of the pollution potential rankings of the 20 cross-section States illustrates how representative the cross-section States are as based on these characteristics.

Table V.B.2.a. Ranking of States based on Number of Manufacturing Establishments per Square Mile. SDWIS/FED (Round 2) 20 Cross-Section States in Bold.

State	Ranking of the Number of Manufacturing Establishments/ Sq. Mile	Ranking of the Total Farm Ag. Chemical Expenses
Rhode Island	1	49
New Jersey	2	37
Connecticut	3	45
Massachusetts	4	43
New York	5	28
Ohio	6	11
Maryland	7	35
Pennsylvania	8	29
Delaware	9	39
Illinois	10	2
California	11	1
Florida	12	4
Michigan	13	18
New Hampshire	14	48
Indiana	15	7
North Carolina	16	17
Wisconsin	17	20
Tennessee	18	24
Georgia	19	19
Virginia	20	30
South Carolina	21	32
Hawaii	22	36
Vermont	23	47
Washington	24	14
Alabama	25	26
Missouri	26	12
Kentucky	27	27
Minnesota	28	5
Louisiana	29	13
Texas	30	6
Mississippi	31	8
Arkansas	32	10
West Virginia	33	44
Oregon	34	22
Maine	35	38
Iowa	36	3
Oklahoma	37	33
Colorado	38	31
Kansas	39	16
Arizona	40	25
Utah	41	42
Nebraska	42	9
Idaho	43	23
New Mexico	44	40
South Dakota	45	21
Nevada	46	46
North Dakota	47	15
Montana	48	34
Wyoming	49	41
Alaska	50	50
	<i>1=highest</i>	<i>1=highest</i>

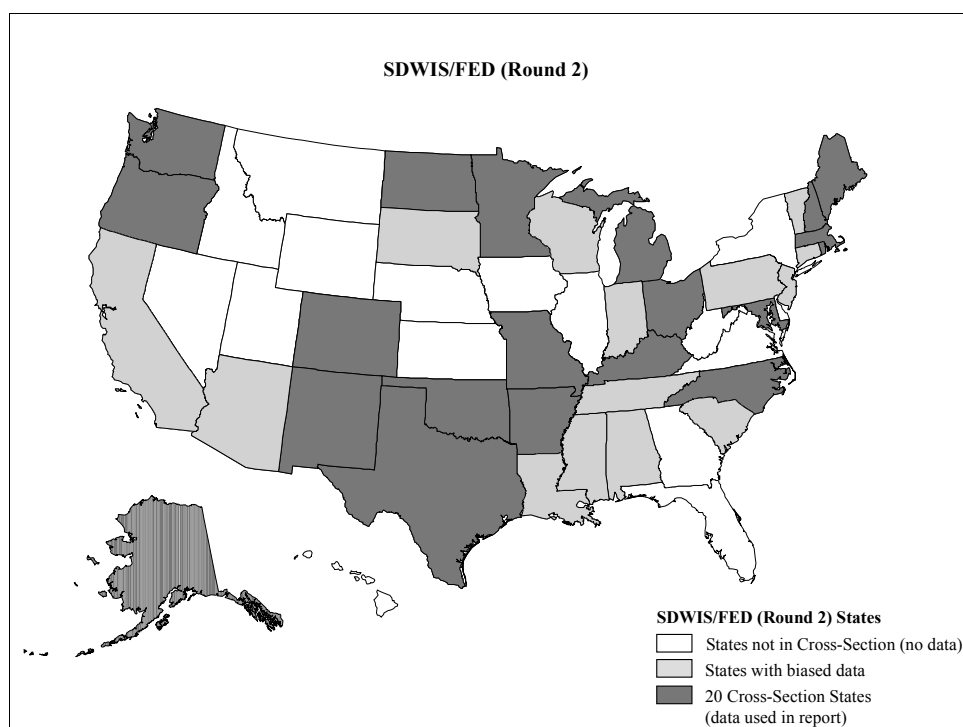
All 50 States are ranked based on the number of manufacturing establishments per square mile. Each State's rank in total farm agricultural chemical expenses is also indicated. The 34 States in highlighted rows are the States with data in the SDWIS/FED database. The 20 States in bold are the selected SDWIS/FED (Round 2) cross-section States. Ranking quartiles are indicated by bold lines.

Figure V.B.2.a. Distribution of State Rankings for Manufacturing Establishments / Sq. Mile vs. Farm Ag. Chemical Expenses. Highlighting SDWIS/FED (Round 2) 20 Cross-Section States



The geographic distribution of the 20 SDWIS/FED (Round 2) cross-section States is shown in Figure V.B.2.b, with some of the characteristics of the remaining 30 (non-cross-section) States also identified. Even with some cluster of States in the central portion of the quartiles, these 20 cross-section States appear relatively well distributed based on pollution potential indicators, with a fairly uniform distribution, from high to low potential, for both key pollution indicators (see Figure V.B.2.a). This broad distribution appears relatively comparable to that of the 24 URCIS (Round 1) cross-section States. Geographically, the 20 Round 2 cross-section States cover a substantial portion of the country. These States are also distributed across the country. Although coverage is perhaps sparse in the south-east and along the western slope of the Rocky Mountains, every major geographic region has some State representation.

Figure V.B.2.b. 20 SDWIS/FED (Round 2) Cross-Section States and States Not Included in the Cross-Section



VI. ANALYSIS OF NATIONAL OCCURRENCE

This section of the report contains detailed occurrence assessments of the eight CCL priority contaminants. As described in Section I of this report, the occurrence data for the UCM (1987) contaminants are from the URCIS database, and are referred to as the “URCIS (Round 1) data.” The occurrence data for UCM (1993) contaminants are from the SDWIS/FED database, and are referred as the “SDWIS/FED (Round 2) data.” The NIRS data are used to assess occurrence of two IOCs on the CCL priority list. In the following section (Section VII), a series of graphs and maps are presented as a complimentary graphical evaluation of the occurrence of the CCL priority contaminants.

The summary data developed for the occurrence assessments are presented in detail in Appendices A through E. Appendix A contains summary tables for the two URCIS (Round 1) contaminant data. Appendix B contains summary tables for the six SDWIS/FED (Round 2) contaminant data. Summary tables for the two NIRS contaminant data are presented in Appendix C. In Appendix D, data coverage comparisons between URCIS (Round 1) and SDWIS/FED (Round 2) data are presented for select States and contaminants. Data summaries of select contaminants by system type and population-served for both URCIS (Round 1) and SDWIS/FED (Round 2) data are presented in Appendix E. At the

beginning of the Appendices section, a complete List of Appendix Tables identifies all tables included in the five appendices. Also included are “Notes to Accompany Unregulated Contaminant Occurrence Data Tables” which presents definitions of terms and phrases commonly used in the many tables, graphs, and maps included in this report and its appendices.

VI.A. URCIS (Round 1) Contaminant Occurrence

The development of URCIS (Round 1) 24-State cross-section is described in detail in Section V of this report, and these 24 cross-section States are included in Figure V.B.2. Table VI.A.1 summarizes the occurrence data of the URCIS (Round 1) 24-State cross-section for two CCL priority contaminants. The table presents the total number of unique public water systems, the percent of public water systems with at least one analytical result greater than the Minimum Reporting Level (MRL), the percent of public water systems with at least one analytical result greater than the estimated Health Reference Level (HRL) and, finally, the 99th percentile value in micrograms per liter (µg/L). More detailed assessment of occurrence findings will be presented later in this section, but some general observations are made here based on the findings presented in Table VI.A.1.

The 24 States used in the URCIS (Round 1) cross-section reflect a significant national coverage: these States contain approximately 44% of public water systems nationally and 51% of the population served by public water systems. Analytical detections of the CCL contaminants in public water systems are relatively similar in ground water and surface water systems. The percent of systems with at least a single sample analytical result greater than the HRL is less than 0.11% for both of these VOCs.

Table VI.A.1. URCIS (Round 1) Data - 24-State Cross-Section Summary of Occurrence for CCL Contaminants

CHEMICAL NAME (HRL in µg/L)	Total # PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > HRL	% GW PWS > HRL	% SW PWS >	99% Value (µg/L)
VOCs										
Hexachlorobutadiene (HRL=0.9)	12,284	10,980	1,385	0.35%	0.30%	0.72%	0.11%	0.06%	0.51%	< 5.0
Naphthalene (HRL=140)	13,452	12,034	1,502	1.18%	1.08%	1.93%	0.01%	0.02%	0.00%	< 5.0

PWS = Public Water Systems; GW = Ground Water (PWS Source Water Type); SW = Surface Water (PWS Source Water Type); MRL = Minimum Reporting Limit (for laboratory analyses); HRL = Health Reference Level (concentration values used only as reference levels for analyses in this report).

“% > HRL” indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

A complete presentation of the occurrence data for the two CCL contaminants in URCIS (Round 1) is provided in Appendix A. There is a set of three tables of occurrence data for each of the contaminants. The first table of each set (Tables A.1.a, A.2.a) contain the system-level data summarized in Table VI.A.1 (above), but present the data for all individual States (rather than just the aggregate data from the 24 States in the cross-section). Tables A.1.b and A.2.b provide sample-level data and additional descriptive statistics, including the total number of analyses and the percent of samples with at least one result greater than the MRL. These tables also include the minimum concentration value, 99th percentile value, maximum concentration value, minimum concentration value of analytical detections and median value of analytical detections. Tables A.1.c and A.2.c provide similar detailed analytical measures, but provide system-level statistics (as compared to the sample-level statistics in Tables A.1.b and A.2.b).

VI.B. SDWIS/FED (Round 2) Contaminant Occurrence

The SDWIS/FED (Round 2) 20 cross-section States are discussed in Section V of this report, and are identified in Figure V.B.2.b. Table VI.B.1 summarizes the occurrence data of the SDWIS/FED (Round 2) 20 cross-section States for six CCL priority contaminants. This table presents the total number of unique public water systems, the percent of public water systems with at least one result greater than the Minimum Reporting Level (MRL), the percent of public water systems with at least one result greater

than the Health Reference Level (HRL) and, finally, the 99th percentile value in micrograms per liter ($\mu\text{g/L}$). Some general observations based on Table VI.B.1 are made here, with additional assessments of occurrence findings presented later in this section.

The 20 States used in the SDWIS/FED (Round 2) cross-section reflect a significant national coverage: these States contain approximately 41% of public water systems nationally and 34% of the population served by public water systems. For the contaminants evaluated here, with the exception of sulfate, less than 1% of public water systems in the cross-section States have analytical detections. Analytical detections of three contaminants (aldrin, dieldrin, and metribuzin) are found in less than 0.1% of PWSs, suggesting very low levels of national occurrence. The two VOCs, hexachlorobutadiene and naphthalene, occur in 0.18% and 0.75% of PWSs, respectively, also exhibiting low national occurrence as based on the SDWIS/FED (Round 2) data. Sulfate has a considerably higher percent of systems with one or more sample analytical results greater than the MRL (approximately 88%). The percent of systems with at least one sample analytical result greater than the sulfate HRL of 500,000 $\mu\text{g/L}$ is 0.79% and for the sulfate HRL of 1,000,000 $\mu\text{g/L}$ is 0.39%. The percent of systems with at least one sample analytical result greater than the HRL for all other contaminants is less than 0.09%.

Table VI.B.1. SDWIS/FED (Round 2) Data - 20-State Cross-Section Summary of Occurrence for CCL Contaminants

CHEMICAL NAME (HRL in $\mu\text{g/L}$)	Total PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL	99% Value ($\mu\text{g/L}$)
IOCs										
Sulfate ¹ (HRL=500,000)	16,495	15,009	1,486	88.11%	87.76%	91.66%	1.79%	1.83%	1.41%	560,000
Sulfate ¹ (HRL=1,00,000)	16,495	15,009	1,486	88.11%	87.76%	91.66%	0.39%	0.38%	0.54%	560,000
SOCs										
Aldrin ² (HRL=0.002)	11,745	10,420	1,325	0.01%	0.01%	0.00%	0.01%	0.01%	0.00%	< 2.0
Dieldrin ² (HRL=0.002)	11,788	10,329	1,459	0.09%	0.09%	0.14%	0.09%	0.09%	0.14%	< 1.0
Metribuzin ² (HRL=91)	13,512	11,833	1,679	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	< 2.0
VOCs										
Hexachlorobutadiene ³ (HRL=0.9)	22,736	20,380	2,356	0.18%	0.13%	0.59%	0.02%	0.00%	0.13%	< 1.0
Naphthalene ³ (HRL=140)	22,923	20,524	2,399	0.75%	0.62%	1.92%	0.00%	0.00%	0.00%	< 2.0

1. Sulfate data were analyzed using two different HRLs and are, therefore, listed twice.

2. Massachusetts data not included in summary statistics for this contaminant.

3. New Hampshire data not included in summary statistics for this contaminant.

PWS = Public Water Systems; GW = Ground Water (PWS Source Water Type); SW = Surface Water (PWS Source Water Type); MRL = Minimum Reporting Limit (for laboratory analyses); HRL = Health Reference Level (concentration values used only as reference levels for analyses in this report).

“% > HRL” indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

Appendix B contains complete occurrence summaries for the CCL contaminants contained in SDWIS/FED (Round 2) data. There is a set of three tables of occurrence data for each of the six contaminants (similar in construction to the table sets in Appendix A). The first table of each set (Tables B.1.a, B.2.a, etc., through B.6.a) contain the system-level summary data presented in Table VI.B.1 (above), but present the data for all individual States. Tables B.1.b through B.6.b provide sample-level data and additional descriptive statistics, including the total number of analyses and the percent of samples with at least one result greater than the MRL. These tables also include the minimum concentration value, 99th percentile value, maximum concentration value, minimum concentration value of analytical detections and median value of analytical detections. Tables B.1.c through B.7.c provide similar detailed analytical measures, but provide system-level statistics.

VI.C. NIRS Contaminant Occurrence

The NIRS data are discussed in Section IV of this report. Table VI.C.1 summarizes the occurrence data of the NIRS (for ground water systems only) for two CCL priority contaminants. This table presents the total number of unique public ground water systems represented in the survey, the percent of surveyed public water systems with at least one result greater than the MRL, the percent of surveyed public water systems with at least one result greater than the HRL (or benchmark) and, finally, the 99th percentile value in micrograms per liter (µg/L). Some general observations based on Table VI.C.1 are made here, with additional assessments of occurrence findings presented later in this section. For the contaminants evaluated here, a large portion of surveyed public water systems have analytical detections, ranging from 67.95% of PWSs with detections of manganese to 100% of the surveyed PWSs with detections of sodium. (Note that sodium in various forms can be used in water treatment.) The percent of systems with at least one sample analytical result greater than the HRL (or benchmark) is relatively high for both of these IOCs. (Note that these results are for ground water systems only, and that the NIRS survey was designed to provide statistically valid results for ground water systems nationally.)

Table VI.C.1. NIRS Data - Summary of Occurrence for Priority Contaminants

CHEMICAL NAME (HRL in mg/L)	Total PWS	% PWS > MRL	% PWS > ½ HRL ¹	% PWS > HRL ¹	99 th Value (mg/L)
IOCs					
Manganese (HRL=0.30)	989	67.95%	6.07%	3.24%	0.63
Manganese (HRL=0.05)	989	67.95%	23.66%	15.98%	0.63
Sodium (Benchmark=30)	989	100.00%	52.48%	36.91%	516.83
Sodium (Benchmark=120)	989	100.00%	22.65%	13.25%	516.83

1. In the case of sodium, a benchmark, rather than an HRL, was chosen based on taste thresholds and effects, which occur at lower concentrations than health effects.

PWS = Public Water Systems; MRL = Minimum Reporting Limit (for laboratory analyses); HRL = Health Reference Level (concentration values used only as reference levels for analyses in this report).

Note: Manganese data were analyzed using two different HRLs and sodium data were analyzed using two different benchmarks. Therefore, both manganese and sodium are listed twice.

In Appendix C, Table C.1 through Table C.2 summarize the NIRS data coverage for the two inorganic contaminants. Each table illustrates the total number of samples, the number and percent of samples with at least one result greater than the MRL, the number and percent of samples with at least one result greater than ½ the estimated HRL (or benchmark), and the number and percent of samples with at least one result greater than the estimated HRL (or benchmark). These tables also include descriptive statistics, such as the minimum concentration value, 99th percentile value, maximum concentration value, minimum concentration value of analytical detections and median value of analytical detections in milligrams per liter (mg/L). Since the NIRS data contain one sample per public water system, the number and percent of samples calculated to be greater than the MRL (“> MRL”), greater than half the HRL (or benchmark) (“> 0.5 HRL”) or greater than the HRL (or benchmark) (“> HRL”) are identical to the number and percent of systems that are greater than the MRL, 0.5 HRL (or benchmark) or HRL (or benchmark), respectively, for each contaminant. Therefore, the data require presentation only once, based on the number of samples. (Note: Manganese and sodium data were analyzed using two different HRLs (or benchmarks). Therefore, summary data for these contaminants are presented separately for each HRL (or benchmark).)

Since the NIRS data were taken from a select group of nationally representative public water systems (served by ground water), the percentage of samples (or systems) exceeding various thresholds listed here are also estimates of national occurrence. For example, since 3.24% of NIRS systems sampled for manganese have detections greater than the HRL (HRL = 0.30 mg/L), it can be concluded that

approximately 3.24% of systems sampled nationally for manganese will have detections greater than the specified HRL.

VI.D. Comparing Data Coverage of URCIS (Round 1) and SDWIS/FED (Round 2)

The URCIS (Round 1) and SDWIS/FED (Round 2) data were evaluated to determine if comparable States, public water systems, and contaminants are contained in both databases. As previously noted, URCIS (Round 1) contained data from 40 States/territories and SDWIS/FED (Round 2) contained data from 35 States/territories.

Table VI.D.1 lists the States in URCIS (Round 1) and SDWIS/FED (Round 2), highlighting the States common to both. Although 25 States are common to both Rounds 1 and 2, most of these States could not be considered for this analysis because of data quality issues (see Table II.C.1 and Table III.C.1). Many States reported analytical results from a very low proportion of systems, reported results in mixed units, and/or reported only analytical detections (highly censored reporting) in Round 1 and/or Round 2.

Of the 25 States in both URCIS (Round 1) and SDWIS/FED (Round 2) (highlighted in Table VI.D.1), only eight were determined to be sufficiently complete for use in this comparison analysis. Alaska, Kentucky, Maryland, Minnesota, North Carolina, New Mexico, Ohio, and Washington (in bold in Table VI.D.1) were contained in both databases and have data of adequate quality for analyses and comparisons.

Table VI.D.1. States Common to both URCIS (Round 1) and SDWIS/FED (Round 2)

States/ Tribes/ Territories	URCIS (Round 1)		SDWIS/FED (Round 2)	
	24 Cross-Section States (used in comparison)	16 Other States (not used in comparison)	20 Cross-Section States (used in comparison)	15 Other States (not used in comparison)
Alaska	✓		✓	
Alabama	✓			×
Arkansas		×	✓	
American Samoa				
Arizona	✓			×
California	✓			×
Colorado		×	✓	
Connecticut				×
Washington, D.C.		×		
Delaware		×		
Florida	✓			
Georgia	✓			
Guam				
Hawaii	✓			
Iowa	✓			
Idaho				
Illinois	✓			
Indiana	✓			×
Kansas				
Kentucky	✓		✓	
Louisiana		×		×
Massachusetts		×	✓	
Maryland	✓		✓	
Maine			✓	
Michigan		×	✓	
Minnesota	✓		✓	
Missouri		×	✓	
Marianna Islands				
Mississippi		×		×

States/ Tribes/ Territories	URCIS (Round 1)		SDWIS/FED (Round 2)	
	24 Cross-Section States (used in comparison)	16 Other States (not used in comparison)	20 Cross-Section States (used in comparison)	15 Other States (not used in comparison)
Montana	✓			
North Carolina	✓		✓	
North Dakota			✓	
Nebraska		×		
New Hampshire		×	✓	
New Jersey	✓			×
New Mexico	✓		✓	
Nevada		×		
New York		×		
Ohio	✓		✓	
Oklahoma			✓	
Oregon			✓	
Pennsylvania				×
Puerto Rico				
Rhode Island			✓	
South Carolina				×
South Dakota	✓			×
Tennessee	✓			×
Tribes				×
Texas		×	✓	
Utah	✓			
Virginia				
Virgin Islands		×		
Vermont		×		×
Washington	✓		✓	
Wisconsin				×
West Virginia	✓			
Wyoming	✓			
States in Both Round 1 and Round 2	15	10	15	10

Highlighted States are common to both URCIS (Round 1) and SDWIS/FED (Round2).

✓- States with data of adequate quality, used for comparison.

×- States with poor or incomplete data, not used for comparison.

Bold States have data of adequate quality in both URCIS (Round 1) and SDWIS/FED (Round2) for comparison

In addition to the States that have data in both URCIS (Round 1) and SDWIS/FED (Round 2) databases, a determination was made regarding actual PWSs that are common to both databases. Table VI.D.2 illustrates the small percentage of systems common to both URCIS (Round 1) and SDWIS/FED (Round 2). Thirty-one percent of all PWSs in URCIS (Round 1) are also in SDWIS/FED (Round 2), while only 22% of all SDWIS/FED (Round 2) PWSs are common to both rounds. This is, in part, because there are many more systems reporting analytical results in SDWIS/FED (Round 2) than in URCIS (Round 1).

Michigan, for example, has only 139 systems in URCIS (Round 1), and 123 of those systems (88%) are also in SDWIS/FED (Round 2). In SDWIS/FED (Round 2), Michigan has a total of 3,209 systems. Of these SDWIS/FED (Round 2) systems, only 123 (approximately 4%) are in URCIS (Round 1). The number of PWSs in Alaska are problematic because the PWSIDs from URCIS (Round 1) do not match the PWSIDs in SDWIS/FED (Round 2). A few States do have a higher percentage of systems common to both rounds. Kentucky, Maryland, Minnesota, New Mexico, and Ohio each have over 70% of their total number of systems common to both URCIS (Round 1) and SDWIS/FED (Round 2). Coincidentally, these are five of the States used for the comparison of occurrence data in States common in URCIS (Round 1) and SDWIS/FED (Round 2), which makes this analysis more representative for comparison of the States for each contaminant.

Table VI.D.2. URCIS (Round 1) and SDWIS/FED (Round 2) - Reporting Data in Comparison of Public Water Systems

States/ Tribes/ Territories	Number of Duplicate PWSs	Number of PWSs in URCIS (Round 1)	% URCIS (Round 1) PWSs in SDWIS/FED (Round 2)	Number of PWSs in SDWIS/FED (Round 2)	% SDWIS/FED (Round 2) PWSs in URCIS (Round 1)
Alaska	0	748	0%	625	0%
Alabama	55	152	36%	314	18%
Arkansas	6	6	100%	577	1%
American Samoa	0	0	0%	0	0%
Arizona	123	973	13%	123	100%
California	67	4,167	2%	67	100%
Colorado	54	60	90%	833	6%
Connecticut	0	0	0%	87	0%
Washington, D.C.	0	1	0%	0	0%
Delaware	0	13	0%	0	0%
Florida	0	855	0%	0	0%
Georgia	0	1,165	0%	0	0%
Guam	0	0	0%	0	0%
Hawaii	0	127	0%	0	0%
Iowa	0	1,002	0%	0	0%
Idaho	0	0	0%	0	0%
Illinois	0	1,307	0%	0	0%
Indiana	120	415	29%	120	100%
Kansas	0	0	0%	0	0%
Kentucky	395	525	75%	445	89%
Louisiana	13	13	100%	1,394	1%
Massachusetts	165	220	75%	506	33%
Maryland	820	998	82%	1,015	81%
Maine	0	0	0%	745	0%
Michigan	123	139	88%	3,209	4%
Minnesota	1,305	1,565	83%	1,581	83%
Missouri	81	85	95%	1,434	6%
Marianna Islands	0	0	0%	0	0%
Mississippi	177	206	86%	1,155	15%
Montana	202	565	0%	0	0%
North Carolina	0	298	0%	2,263	0%
North Dakota	0	0	0%	296	0%
Nebraska	0	214	0%	0	0%
New Hampshire	144	201	72%	849	17%
New Jersey	16	1,551	1%	17	94%
New Mexico	538	617	87%	755	71%
Nevada	0	10	0%	0	0%
New York	0	357	0%	0	0%
Ohio	1,880	2,657	71%	2,259	83%
Oklahoma	0	0	0%	888	0%
Oregon	0	0	0%	1,168	0%
Pennsylvania	0	0	0%	1,424	0%
Puerto Rico	0	0	0%	0	0%
Rhode Island	0	0	0%	117	0%
South Carolina	0	0	0%	1,047	0%
South Dakota	25	335	7%	27	93%
Tennessee	50	306	16%	78	64%
Tribes	0	0	0%	26	0%
Texas	116	124	94%	4,863	2%
Utah	0	430	0%	0	0%
Virginia	0	0	0%	0	0%

States/ Tribes/ Territories	Number of Duplicate PWSs	Number of PWSs in URCIS (Round 1)	% URCIS (Round 1) PWSs in SDWIS/FED (Round 2)	Number of PWSs in SDWIS/FED (Round 2)	% SDWIS/FED (Round 2) PWSs in URCIS (Round 1)
Virgin Islands	0	3	0%	0	0%
Vermont	113	133	85%	636	18%
Washington	878	992	89%	2,680	33%
Wisconsin	0	0	0%	225	0%
West Virginia	0	139	0%	0	0%
Wyoming	0	145	0%	0	0%
TOTAL	7,466	23,819	31%	33,848	22%

Comparisons of contaminants in URCIS (Round 1) and SDWIS/FED (Round 2) indicated that there were no common IOCs (Group 1) or SOCs (Regulated or Group 2) reported in both databases. In contrast, all of the unregulated Group 3 and Group 4 VOCs reported in SDWIS/FED (Round 2) were also reported in URCIS (Round 1). None of the regulated VOCs reported in URCIS (Round 1), however, were reported in SDWIS/FED (Round 2). Summary data for comparison of the two CCL VOCs (hexachlorobutadiene and naphthalene) common to both URCIS (Round 1) and SDWIS/FED (Round 2) data are presented in Appendix D (Tables D.1 - D.2).

The tables in Appendix D contain similar summary data to Appendices A and B for the eight States (with adequate data quality) common to both databases. The total number of analytical records from URCIS (Round 1) to SDWIS/FED (Round 2) generally increased for all eight States and both contaminants, with the exception of Kentucky. The number of total unique PWSs increased from URCIS (Round 1) to SDWIS/FED (Round 2) for Minnesota, North Carolina, New Mexico and Washington, while the number of PWSs decreased from Round 1 to Round 2 in Alaska, Kentucky, Maryland and Ohio for the two contaminants.

Changes in the percentages of samples and percentage of PWSs with at least one analytical result greater than the MRL followed no consistent pattern, by contaminant or by State. The percentage of PWSs with at least one analytical result exceeding the concentration of the HRL (or ½ HRL) also followed no apparent or consistent pattern of change between URCIS (Round 1) and SDWIS/FED (Round 2) data.

VI.E. Comparing Across Systems Types and Sizes

Data for select contaminants were also evaluated based on system type and size. Both the URCIS (Round 1) and SDWIS/FED (Round 2) data were reviewed according to system type (community water systems and non-transient non-community water systems) and further stratified by system size (based on the five standard population-served categories). The summary data for these comparisons are presented in Appendix E (Tables E.1 - E.2 for results from URCIS (Round 1) and Tables E.3 - E.8 for results from SDWIS/FED (Round 2)). These stratified occurrence findings allow an evaluation of any system size patterns and also provide an indication of population exposure.

Generally, for both Round 1 and 2 data, the percentage of public water systems with analytical results greater than the MRL and the HRL increases as the system size (population-served) increases. Also, it appears that the percentage of public water systems with analytical results greater than the MRL and the HRL is generally greater for community water systems than for non-transient non-community water systems. Note that there is a much greater number of CWSs than NTNCWSs in the database.

VII. GRAPHICAL AND SPATIAL ASSESSMENTS OF CCL PRIORITY CONTAMINANTS

The URCIS (Round 1) and SDWIS/FED (Round 2) cross-section States used in the assessments in this section are shown in Figures V.B.2 and V.B.2.b, respectively. Most of the Section VII figures (graphs and maps) present analytical results based on these cross-section States. Some figures (discussed below) use additional State data to increase spatial coverage. All these graphical and spatial assessments are conducted to provide additional analytical detail for the CCL priority contaminants. All these graphical and spatial assessments, evaluated together with the analytical results tables presented

throughout this report (and report appendices), serve to develop a comprehensive overview of the degree, distribution, and temporal trends (if any) of contaminant occurrence.

One important aspect of the cross-section State data must be considered as part of any conclusions drawn from the maps and graphs in this report. The development of the nationally representative cross-sections were discussed for URCIS (Round 1) and SDWIS/FED (Round 2) data in Section V. These national cross-sections are developed from public water systems' contaminant monitoring data with the intent that, in aggregate, the cross-section States' occurrence findings are indicative of national occurrence. (Various occurrence comparisons between the URCIS and SDWIS/FED data, as well as comparisons to other State data sets, indicate that these cross-section States do provide contaminant occurrence data that are reasonable indications of national occurrence.)

Therefore, although sub-national occurrence findings, such as regional or multi-State occurrence patterns, can be valid and useful for these initial assessments, any regional occurrence patterns (or absence of patterns) should be considered in the context of the source and coverage of the State cross-section data. With half (or more) of the States without adequate data (and therefore not in the cross-sections used for analyses), regional patterns may be difficult to characterize and must be interpreted with caution. Supplemental information should be collected and used, whenever possible, to assist in evaluating the significance of any apparent regional patterns. For example, when assessing a particular pesticide occurrence pattern in this report, supplemental State or regional pesticide use information could be reviewed to determine how the possible absence of a pesticide high-use State might affect interpretation of any occurrence pattern in the cross-section State maps.

The NIRS survey was designed to provide a single national occurrence assessment. This survey is based on significantly less data than that provided by URCIS or SDWIS/FED. The NIRS survey results should only be reviewed in aggregate (i.e., at the national level and not at any regional or State level); therefore, no maps or graphs using the NIRS data for manganese or sodium are included.

Only SDWIS/FED (Round 2) data are available for aldrin, dieldrin, metribuzin, and sulfate. Both URCIS (Round 1) and SDWIS/FED (Round 2) data are available for hexachlorobutadiene, and naphthalene. The figures developed in this section of the report reflect this data availability.

Most of the figures below that illustrate distribution of occurrence must be based on non-biased data; for these figures only the cross-section State data are used to develop the maps and graphs. However, to increase the spatial coverage of the figures that broadly identify contaminant occurrence (Figures VII.A.1, VII.B.1, and so on through VII.F.1), *all* data from *all* States with data in URCIS (Round 1) and SDWIS/FED (Round 2) are used. Therefore, in these figures the data from cross-section States are included, as are data from the non-cross-section States (i.e., States with limited or biased data). This more extensive use of the data in the databases can be appropriate when a simple 'yes or no' identification of States with *any* PWS contaminant detection is of interest.

VII.A. Aldrin

Some general comments can be made about the occurrence of aldrin. Aldrin detections appear to be limited to States south of a line extending between New Mexico and Massachusetts; see Figure VII.A.1 (this map includes information from cross-section and non-cross-section States). Five out of 27 States with aldrin data had at least one public water system with at least one analytical detection of aldrin. In Figure VII.A.2 (based on cross-section States only), both maps (relative to the MRL in the upper map and to the HRL in the lower map) reflect this same apparent distribution. However, note the number of agricultural States with no aldrin occurrence data. (Use of supplemental data such as aldrin use, or State or regional occurrence studies could perhaps complement the cross-section results presented here.) In Figure VII.A.3, a possible downward annual trend in aldrin occurrence is suggested. (However, 1992 is the overlap year between Round 1 and Round 2 monitoring, so some occurrence effects critically based on 1992 may have resulted from the changing monitoring and reporting requirements between Rounds 1 and 2.)

Figure VII.A.1. Detections of Aldrin - SDWIS/FED (Round 2) Data (including Cross-Section and non-Cross-Section States)

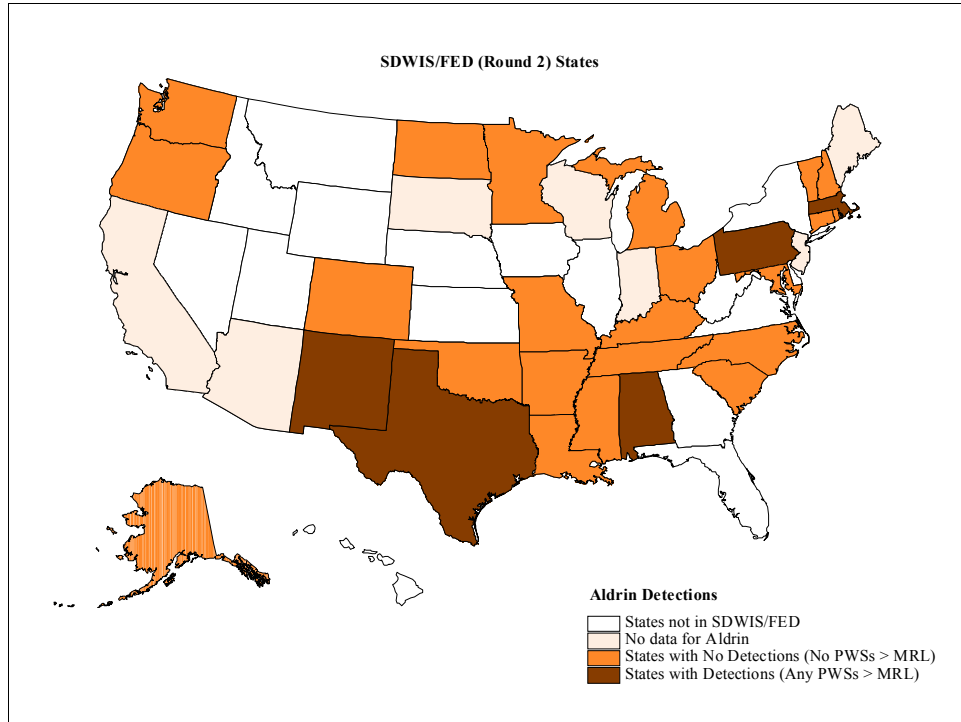


Figure VII.A.2. Distribution of Aldrin Occurrence - SDWIS/FED (Round 2) Cross-Section State Data

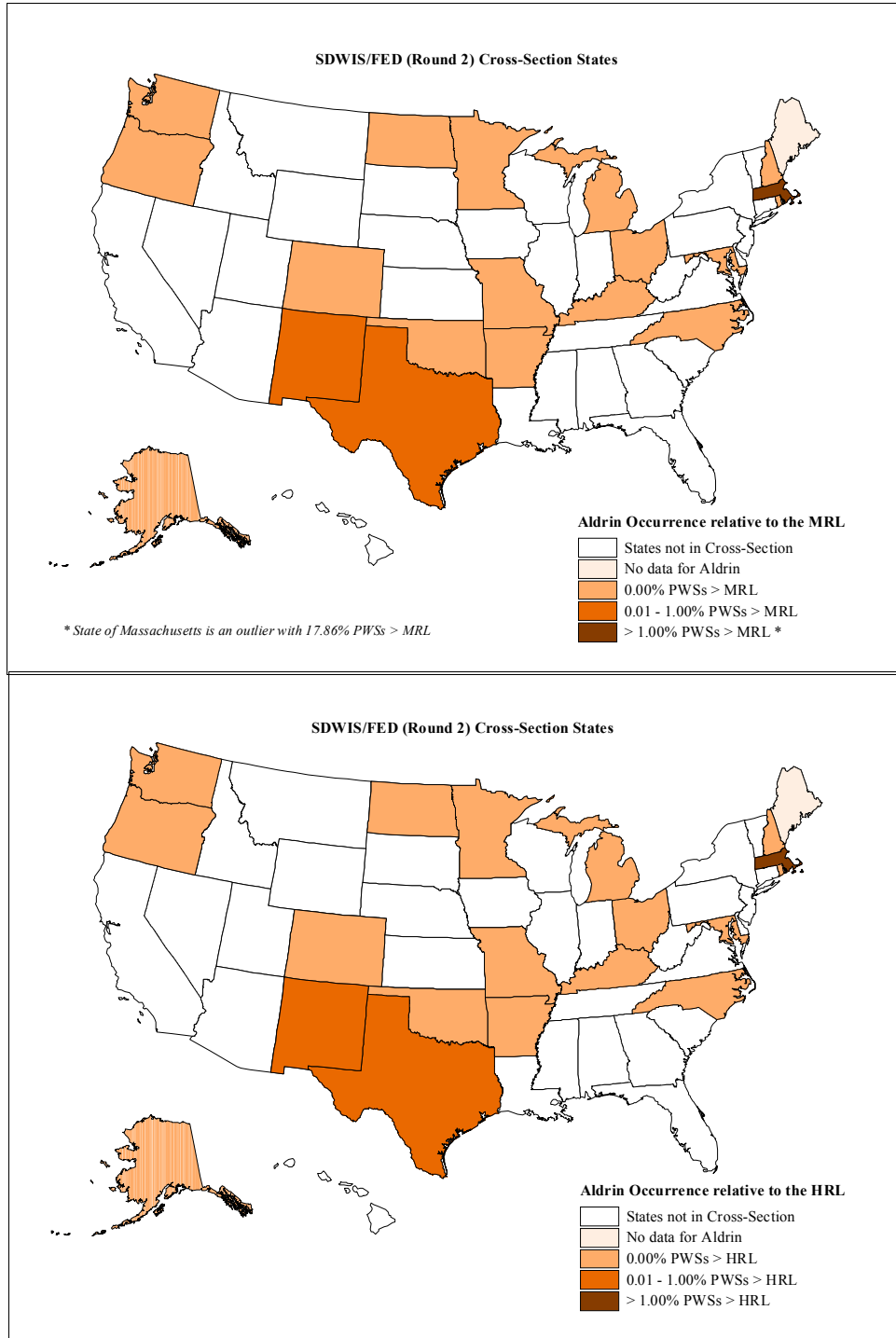
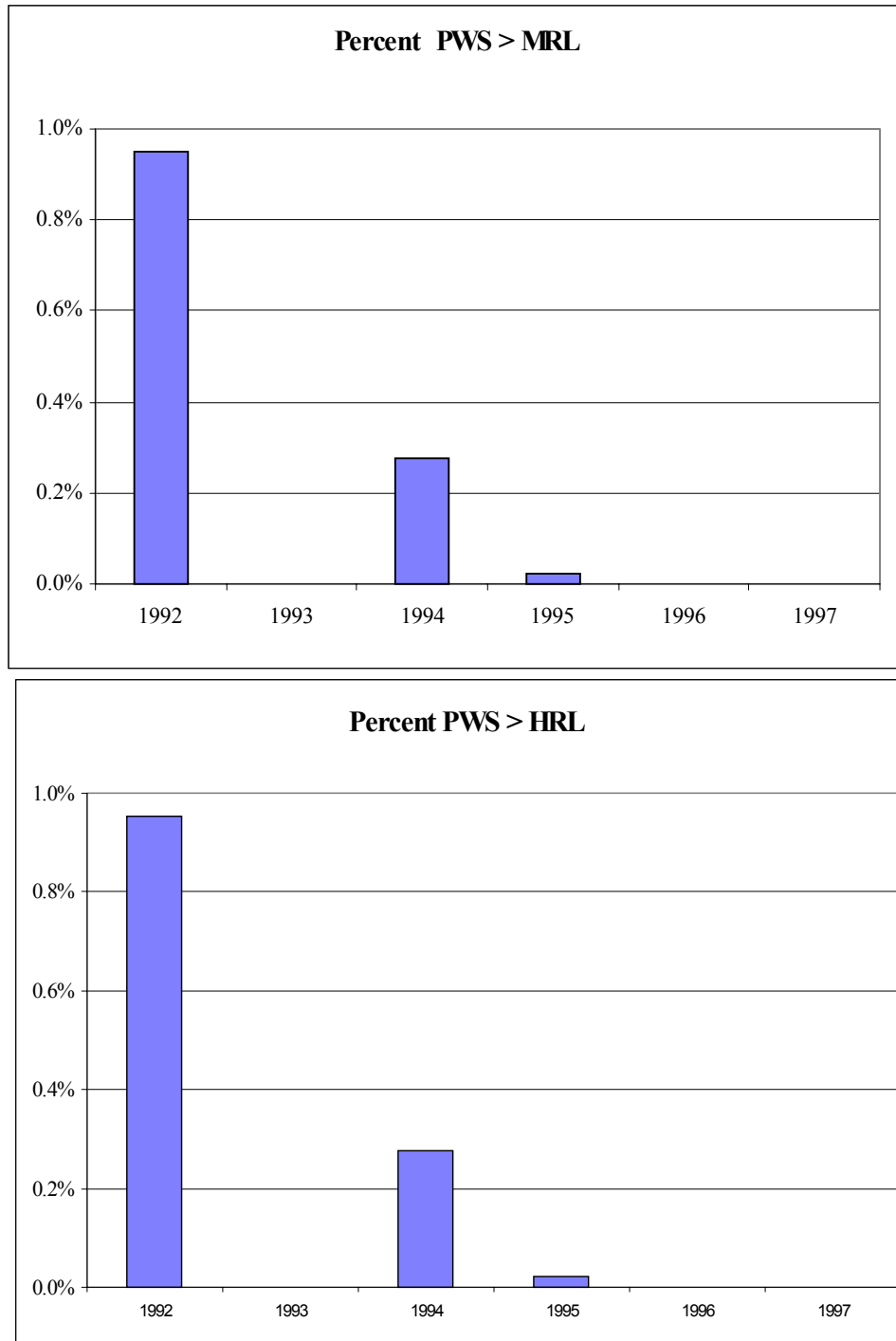


Figure VII.A.3. Aldrin Occurrence By Year - SDWIS/FED (Round 2) Cross-Section State Data



Note: All systems with analytical detections also exceeded the concentration value of the HRL.
 Note for 1992: A relatively low number of systems were sampled in 1992, which may contribute to the high rates of occurrence.
 The Health Reference Level (HRL) used for Aldrin is 0.002 µg/L. This HRL is a draft value for working review only.

VII.B. Dieldrin

Dieldrin detections appear to be of a similar pattern to that of the related pesticide aldrin, with detections limited to States south of a line extending between Texas and Massachusetts (see Figure VII.B.1). Eight out of 27 States with dieldrin data had at least one public water system with at least one analytical detection of dieldrin. In Figure VII.B.2, both maps (relative to the MRL in the upper map and to the HRL in the lower map) reflect this same apparent distribution. However, note the number of agricultural States with no dieldrin occurrence data. In Figure VII.B.3, a possible downward annual trend in dieldrin occurrence is suggested. (However, 1992 is the overlap year between Round 1 and Round 2 monitoring, so some occurrence effects critically based on 1992 may have resulted from the changing monitoring and reporting requirements between Rounds 1 and 2.)

Figure VII.B.1. Detections of Dieldrin - SDWIS/FED (Round 2) Data (including Cross-Section and non-Cross-Section States)

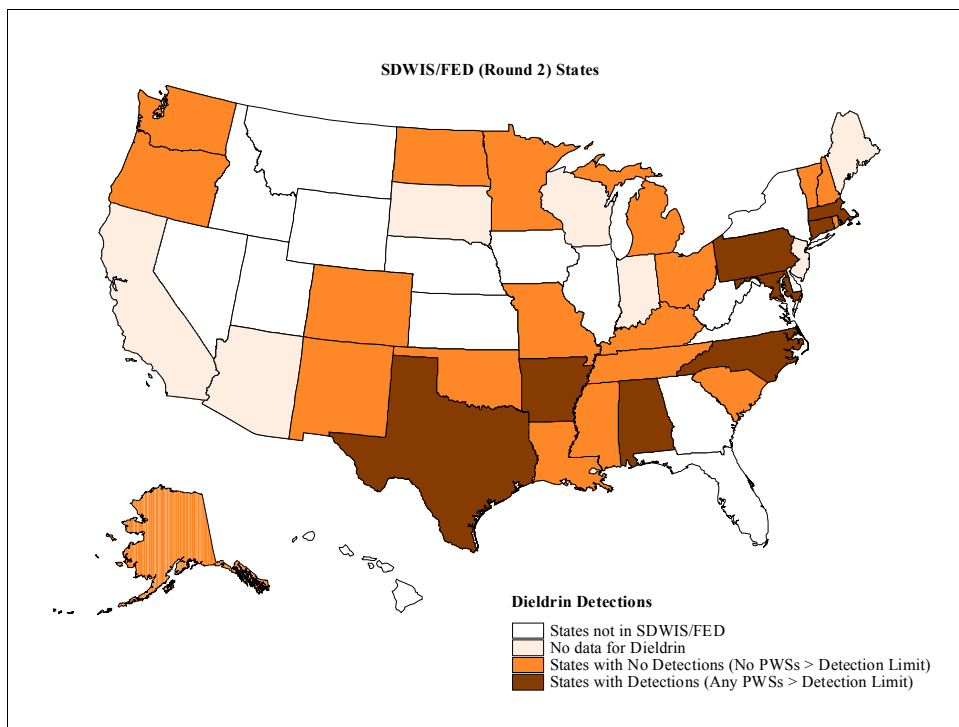


Figure VII.B.2. Distribution of Dieldrin Occurrence - SDWIS/FED (Round 2) Cross-Section State Data

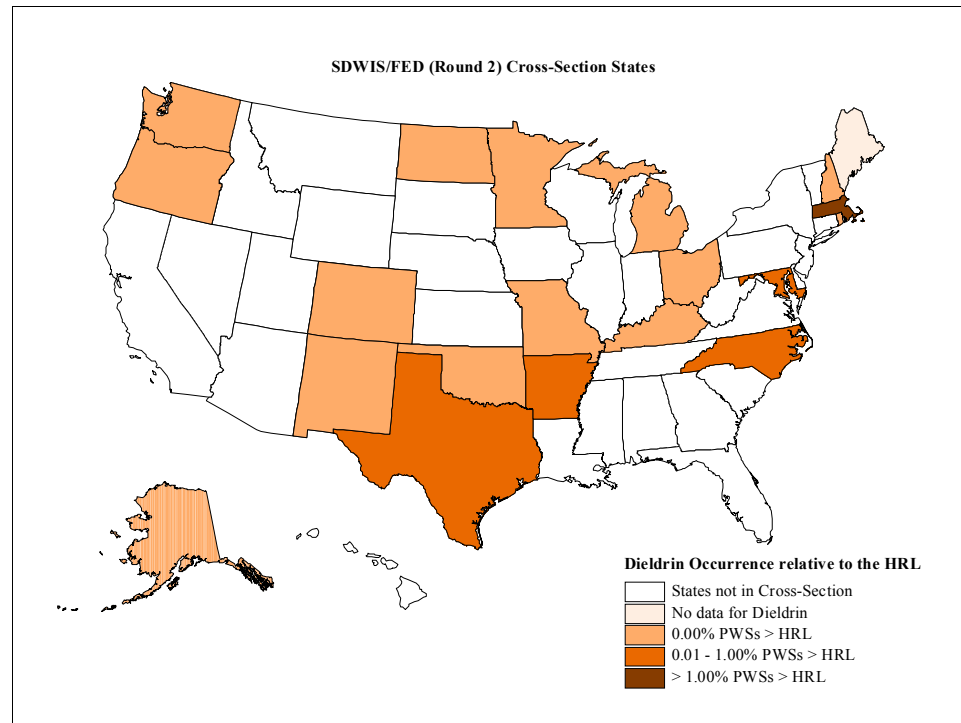
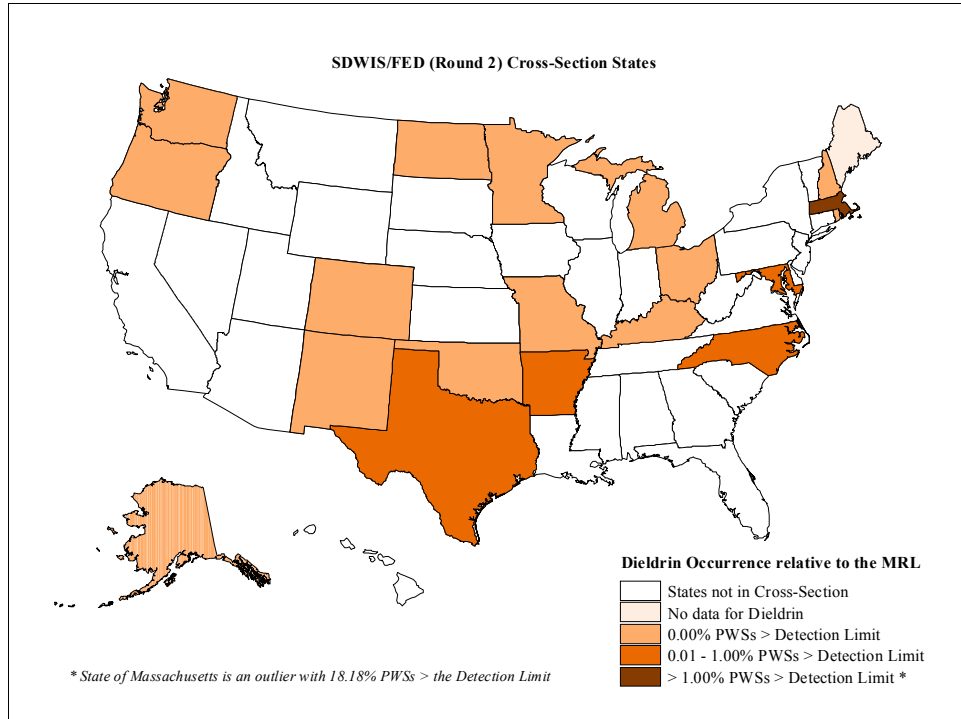
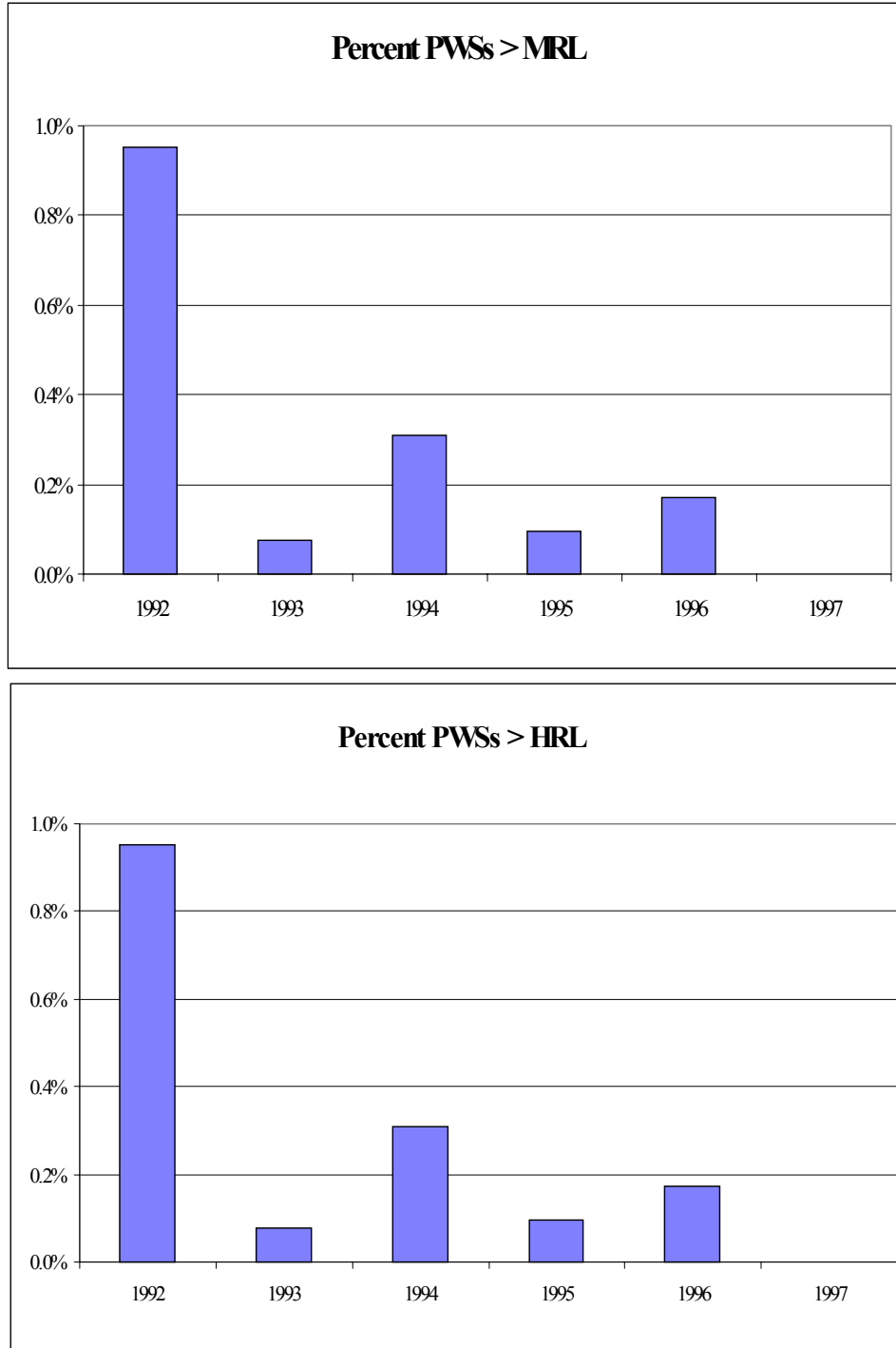


Figure VII.B.3. Dieldrin Occurrence By Year - SDWIS/FED (Round 2) Cross-Section State Data



Note: All systems with analytical detections also exceeded the concentration value of the HRL.
 Note for 1992: The high rates of occurrence are related to the low number of systems sampled in 1992.
 The Health Reference Level (HRL) used for Dieldrin is 0.002 µg/L. This is a draft value for working review only.

VII.C. Metribuzin

Metribuzin detections appear to be relatively few, and with no particular geographic pattern (see Figure VII.C.1.). Only three out of 24 States with metribuzin data had at least one public water system with at least one analytical detection of metribuzin. In Figure VII.C.2., both maps (relative to the MRL in the upper map and to the HRL in the lower map) reflect this same apparent very limited distribution when using data from only the cross-section States. This low occurrence is evidenced in the lower map of Figure VII.C.2., where there are no public water systems in any of the cross-section States with analytical results exceeding the concentration value of the metribuzin HRL. (Again note, however, the number of agricultural States with no metribuzin occurrence data available for this occurrence evaluation.) In Figure VII.C.3, a very tentative downward annual trend in metribuzin occurrence is possibly suggested.

Figure VII.C.1. Detections of Metribuzin - SDWIS/FED (Round 2) Data (including Cross-Section and non-Cross-Section States)

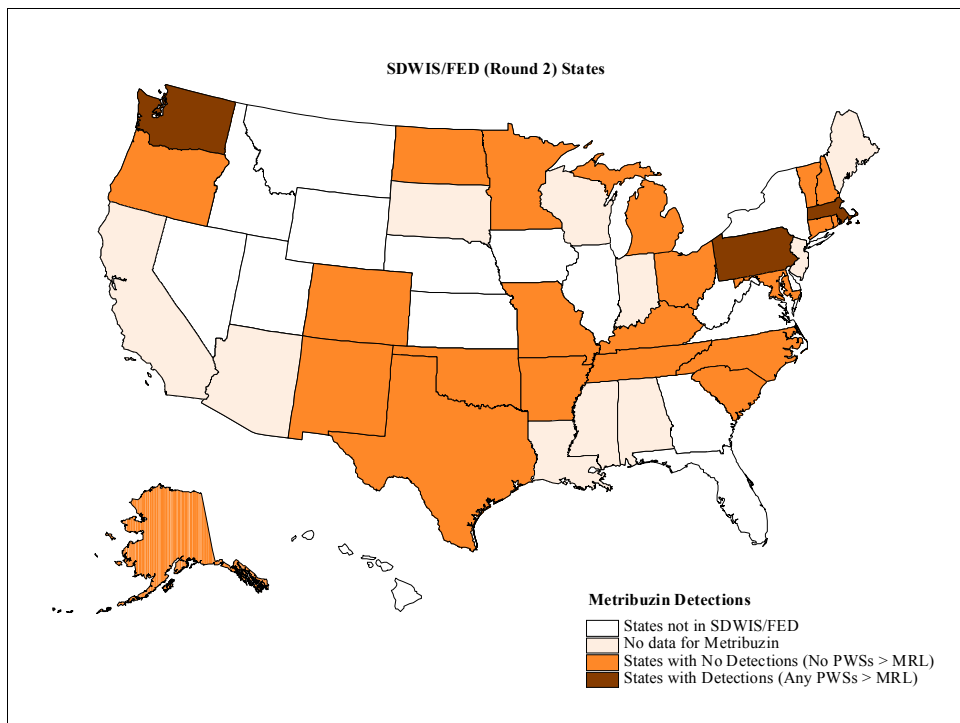


Figure VII.C.2. Distribution of Metribuzin Occurrence - SDWIS/FED (Round 2) Cross-Section State Data

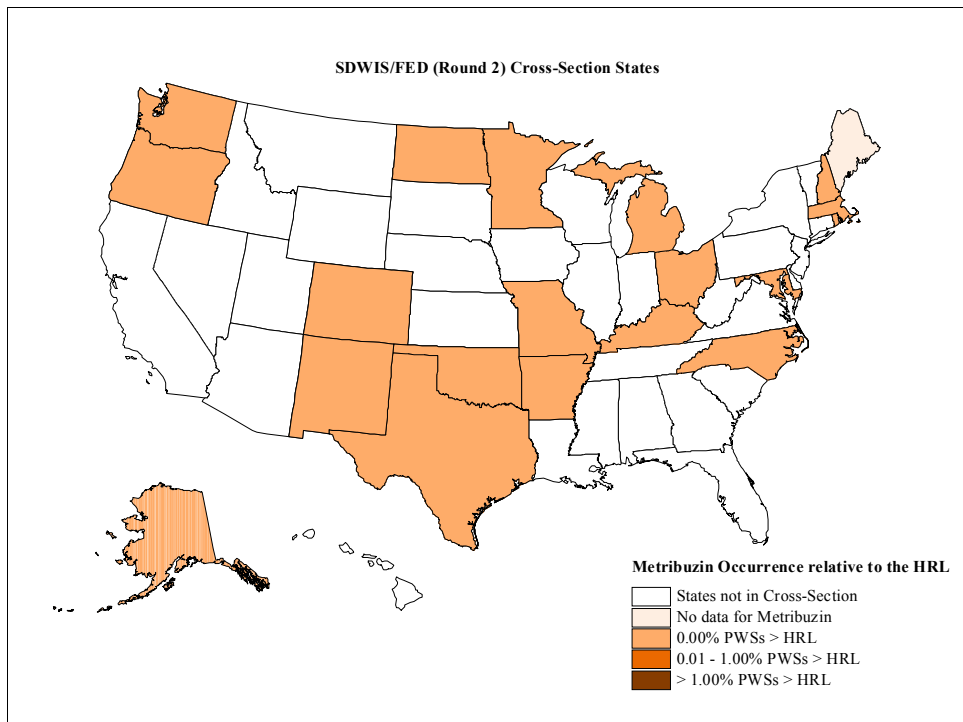
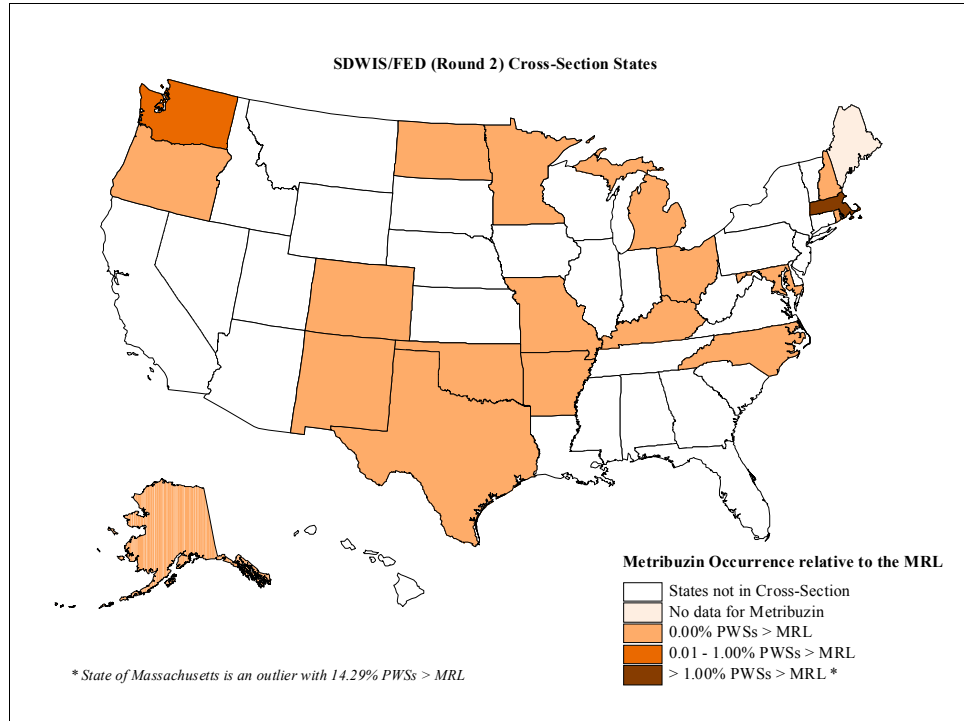
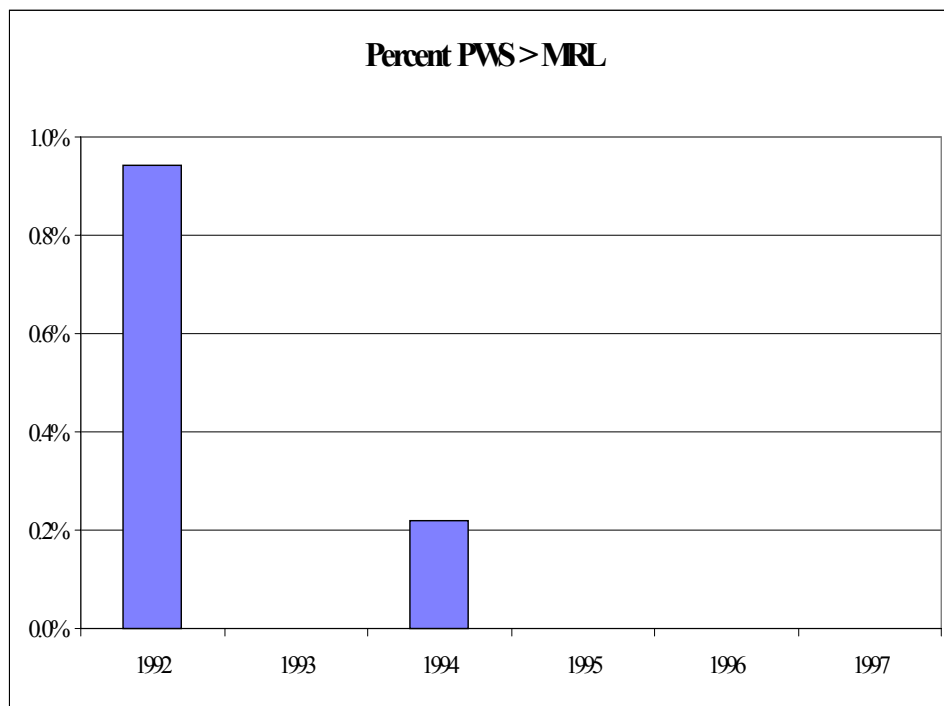


Figure VII.C.3. Metribuzin Occurrence By Year - SDWIS/FED (Round 2) Cross-Section State Data

Note for 1992: The high rates of occurrence are related to the low number of systems sampled in 1992. The Health Reference Level (HRL) used for Metribuzin is 91 µg/L. This HRL is a draft value for working review only. There are no PWSs with analytical results exceeding the concentration value of the HRL for Metribuzin in SDWIS/FED (Round 2).

VII.D. Sulfate

Sulfate is of a distinctly different occurrence character than the three previously discussed SOCs. Occurrence is generally widespread, but appears to be concentrated in the eastern and southern portions of the US (see Figure VII.D.1., which includes all States, both cross-section and non-cross-section States, with data in SDWIS/FED). Twenty out of 21 States with PWS sulfate data in SDWIS/FED (Round 2) had at least one public water system with at least one analytical detection of sulfate. In the Figure VII.D.2. cross-section State maps, both the upper map (regarding occurrence relative to the MRL) and the lower map (with occurrence relative to the HRL) reflect this same general occurrence distribution. In the upper map of Figure VII.D.2., 14 out of the 20 cross-section States reported more than 70% of PWSs with at least one detection of sulfate. The lower map of Figure VII.D.2. suggests that, in addition to being widespread, occurrence is also somewhat high. Four out of the 20 cross-section States reported between 2% and 5.5% of PWSs with at least one analytical detections above the HRL of 500,000 µg/L. Two temporal trends of sulfate occurrence are readily apparent in the graphs in Figure VII.D.3. While the percent of PWSs with at least one sample greater than the MRL has increased from 1992 to 1997 (in the upper graph), the percent of PWSs with at least one sample greater than the HRL (of 500,000 µg/L) has slightly, but steadily, decreased over the same period (in the lower graph).

Figure VII.D.1. Detections of Sulfate - SDWIS/FED (Round 2) Data (including Cross-Section and non-Cross-Section States)

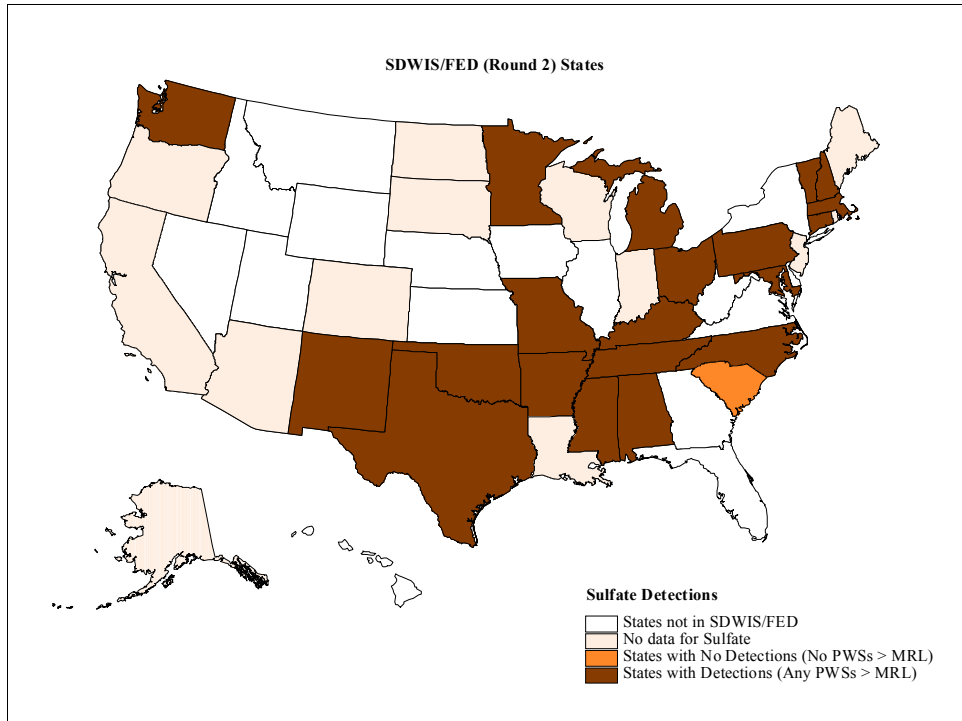


Figure VII.D.2. Distribution of Sulfate Occurrence - SDWIS/FED (Round 2) Cross-Section State Data

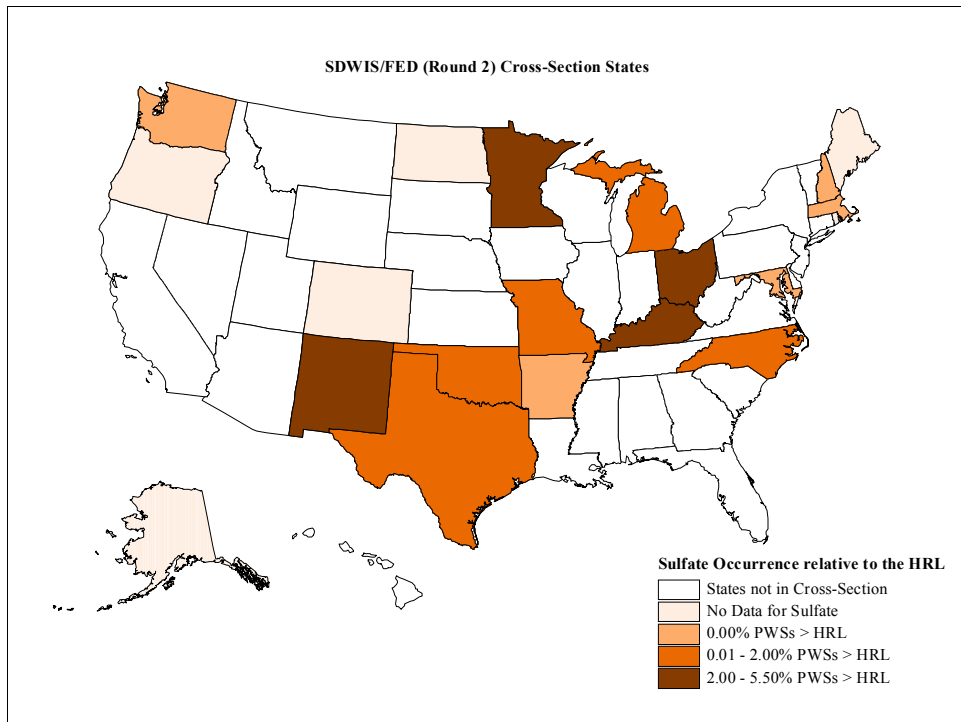
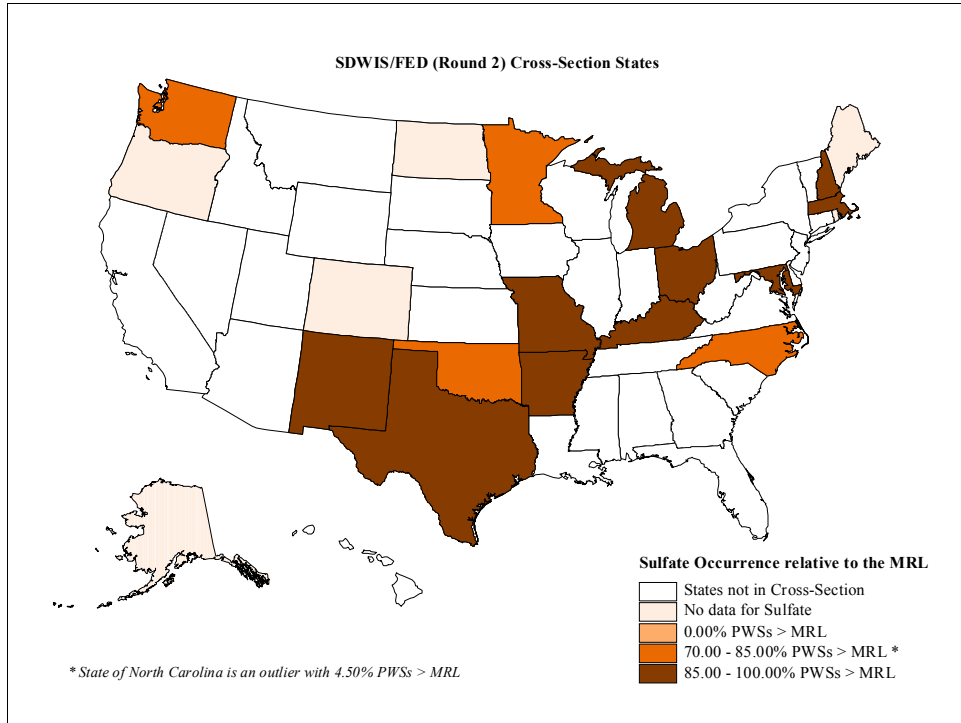
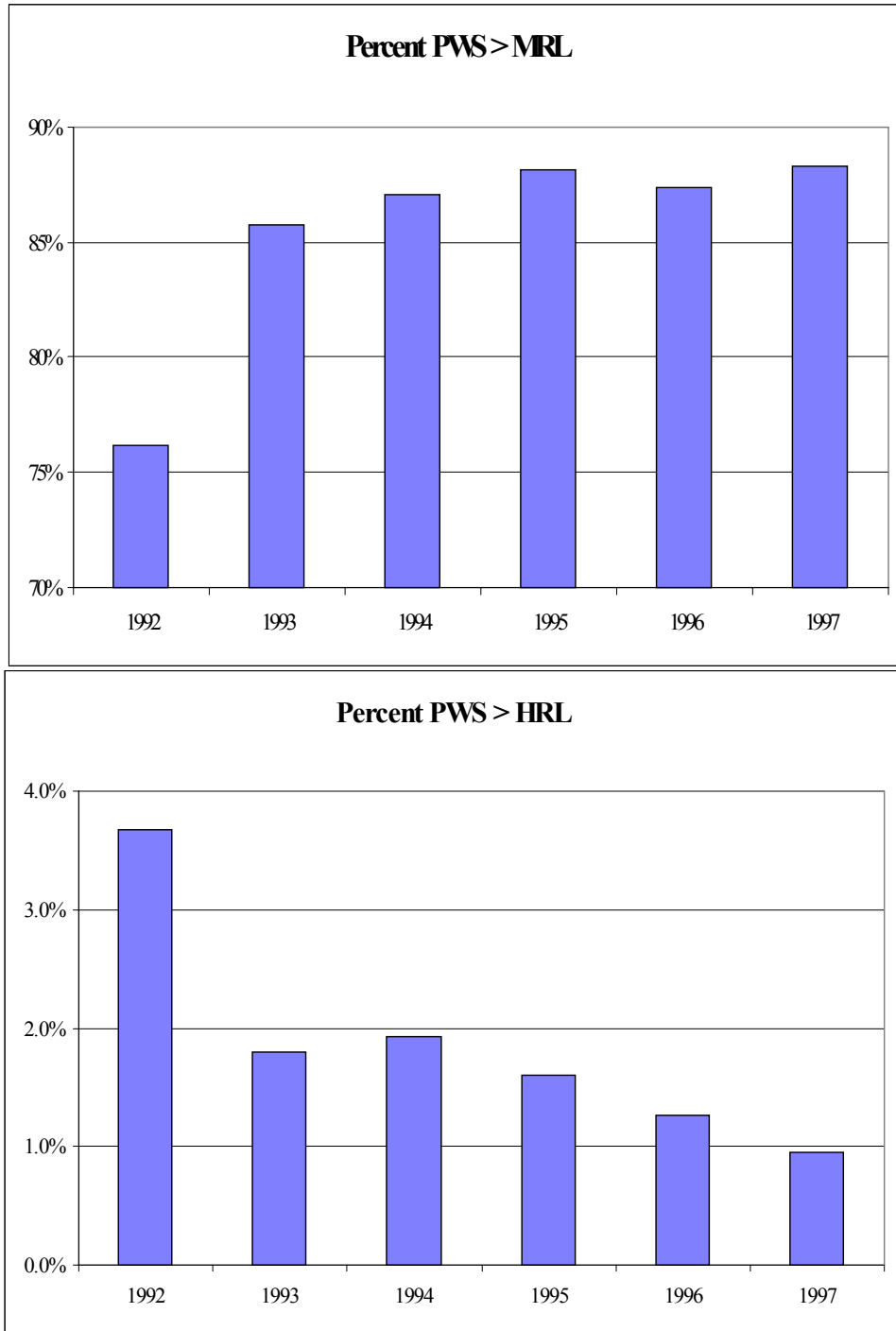


Figure VII.D.3. Sulfate Occurrence By Year - SDWIS/FED (Round 2) Cross-Section State Data



Reference Level (HRL) used for this Sulfate occurrence assessment is 500,000 µg/L. An aggregate sulfate occurrence (for all years combined) relative to an alternative HRL of 1,000,000 µg/L is included in Table VI.B.1. These HRLs are draft values for working review only.

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VII.E. Hexachlorobutadiene

There are PWS occurrence data for hexachlorobutadiene (and naphthalene) in both URCIS (Round 1) and SDWIS/FED (Round 2) data. Therefore, additional occurrence maps can be constructed to provide a somewhat broader picture of occurrence. Hexachlorobutadiene appears to be of fairly widespread occurrence, though its occurrence does not appear to have a distinct geographic pattern (see Figure VII.E.1., which includes all States, both cross-section and non-cross-section States, from both the URCIS and SDWIS/FED databases). Nineteen out of 41 States with PWS hexachlorobutadiene data in URCIS (Round 1) and SDWIS/FED (Round 2) had at least one public water system with at least one analytical detection of hexachlorobutadiene.

In Figure VII.E.2., occurrence relative to the MRL is presented for the URCIS cross-section States in the upper map and the SDWIS/FED cross-section States in the lower map. Generally, the maps reflect hexachlorobutadiene's broad occurrence.

In Figure VII.E.3., the URCIS and SDWIS/FED cross-section States are combined to provide a broad coverage, illustrating occurrence relative to the MRL in the upper map and to the HRL in the lower map. In the upper map, 18 out of 33 cross-section States have at least one PWS with an analytical detection of hexachlorobutadiene. And in the lower map, eight out of 33 cross-section States have at least one PWS with a sample analytical result greater than the HRL.

Hexachlorobutadiene occurrence over time is presented in Figures VII.E.4. and VII.E.5. The data used in these two figures are from the eight States that had hexachlorobutadiene occurrence data in both URCIS and SDWIS/FED databases. In both figures, occurrence is measured relative to the MRL in the upper graph and relative to the HRL in the lower graph. In Figure VII.E.4., the graphs suggest some annual variability in occurrence. When discounting the Round 1 and Round 2 overlap year of 1992, there appears to be no definite temporal trend in hexachlorobutadiene occurrence from 1984 to 1997 (most of the occurrence data are from 1988 to 1997). Overall, occurrence is quite low. In Figure VII.E.5, there appears to be no apparent pattern of hexachlorobutadiene occurrence between Round 1 and Round 2.

Figure VII.E.1. States with PWSs with detections of Hexachlorobutadiene for all States (including Cross-Section and non-Cross-Section States) with data in URCIS (Round 1) and SDWIS/FED (Round 2)

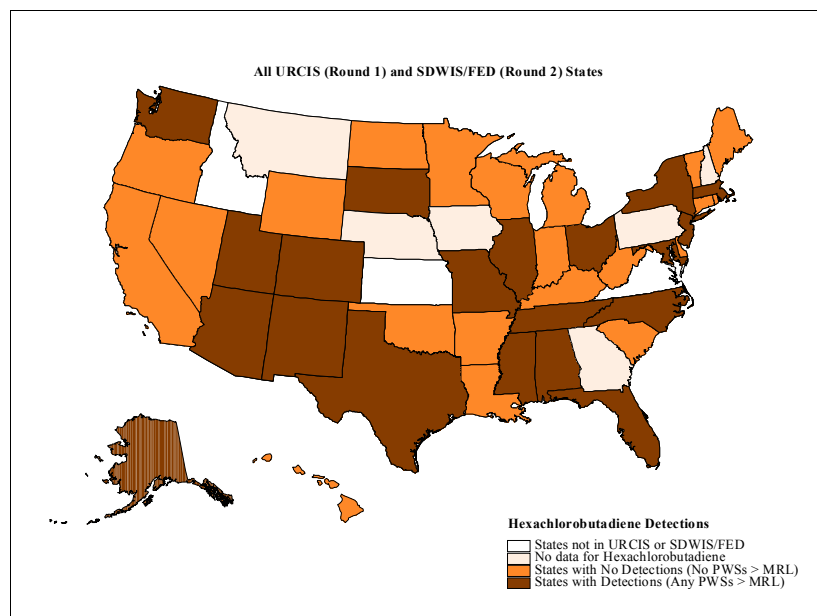


Figure VII.E.2. States with PWSs with detections of Hexachlorobutadiene for Round 1 (above) and Round 2 (below) Cross-Section States

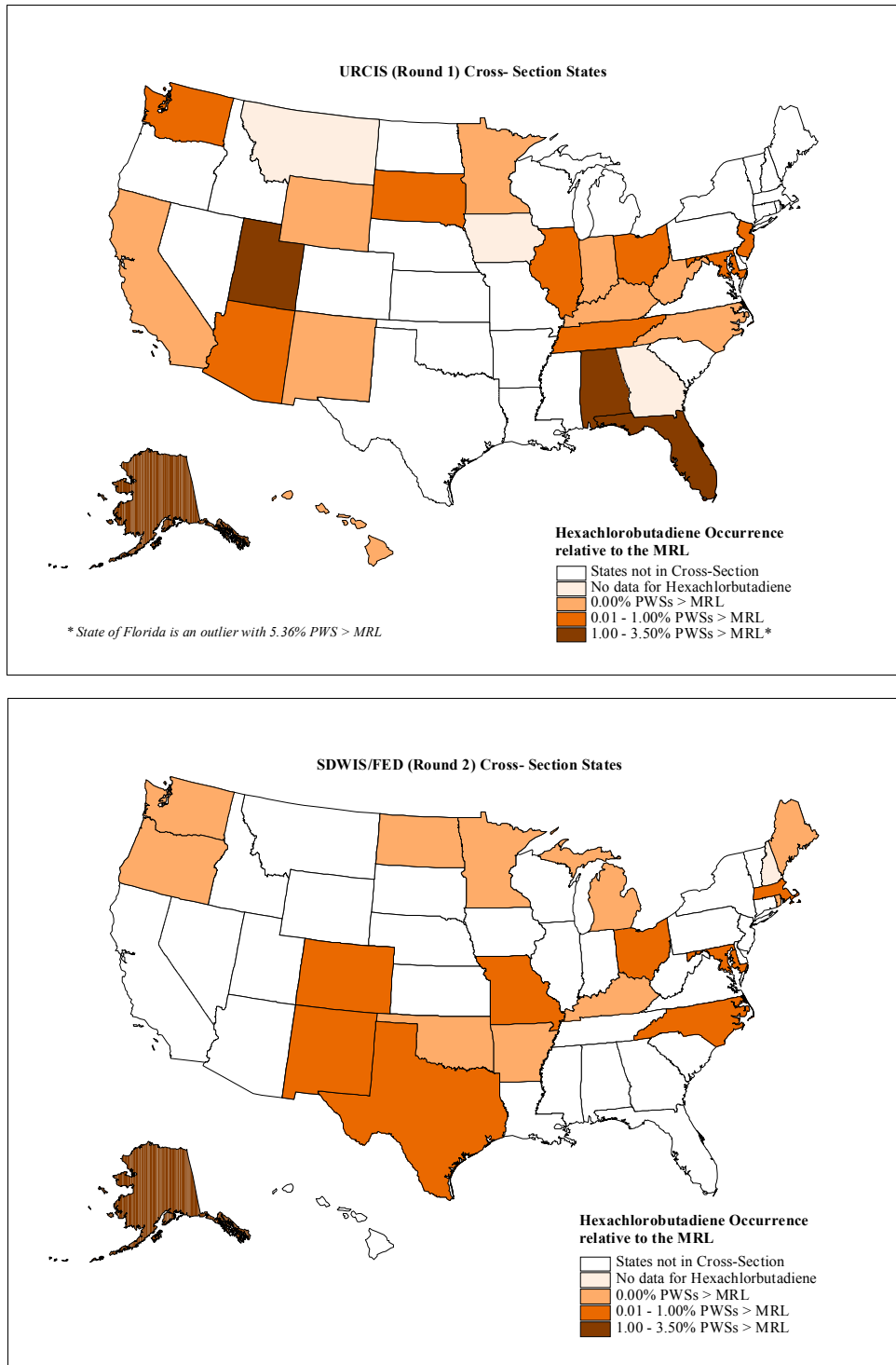


Figure VII.E.3. Round 1 and Round 2 Cross-Section States with PWSs with Hexachlorobutadiene detections (upper map) and with concentrations above the Health Reference Level (lower map)

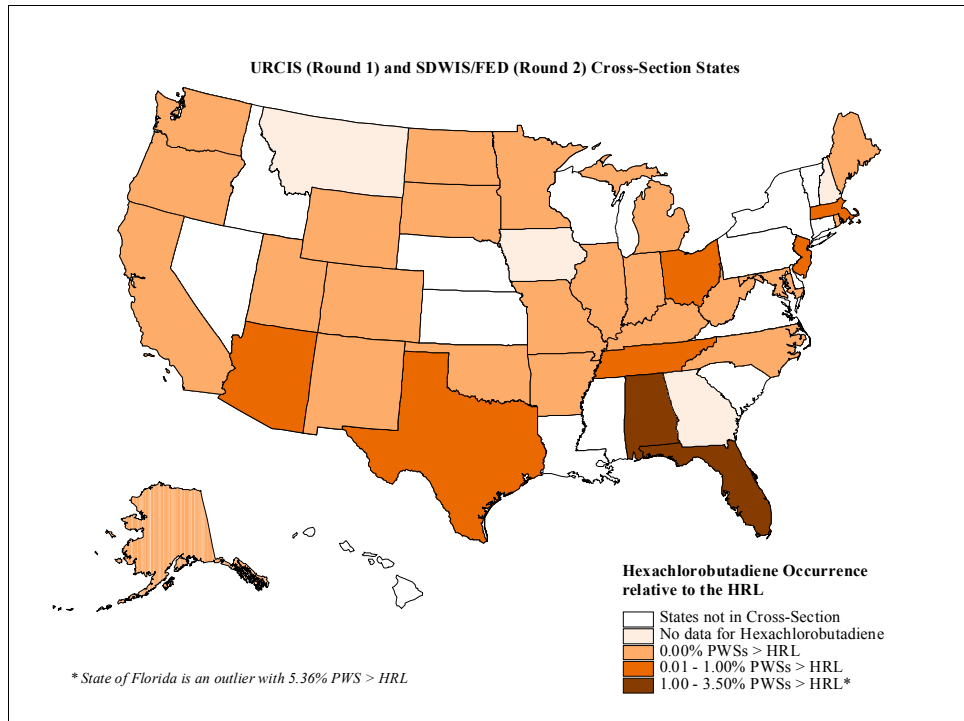
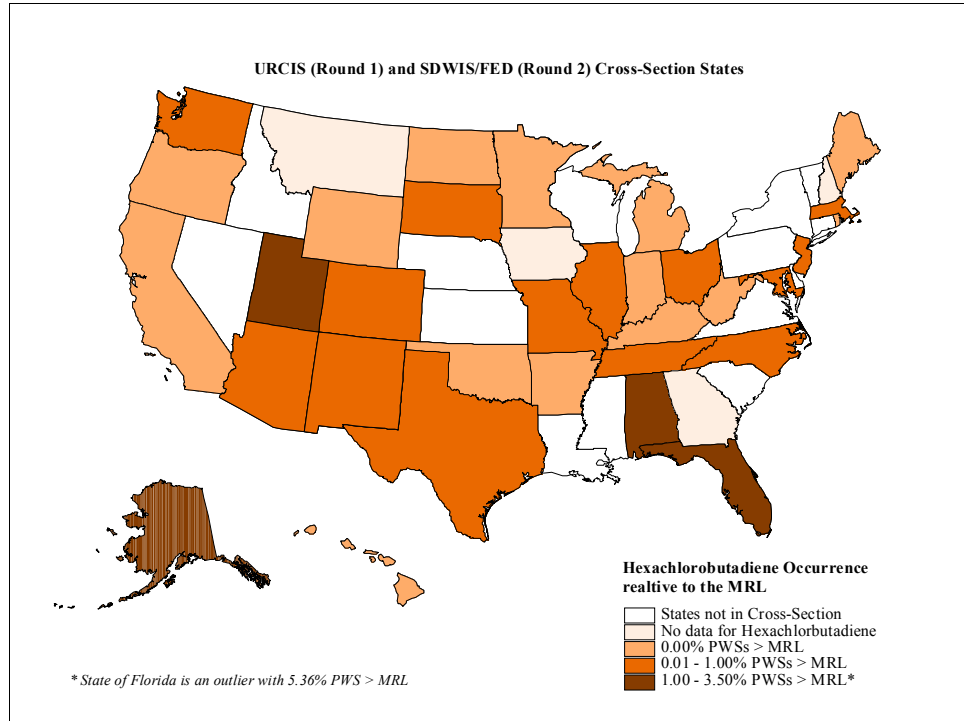
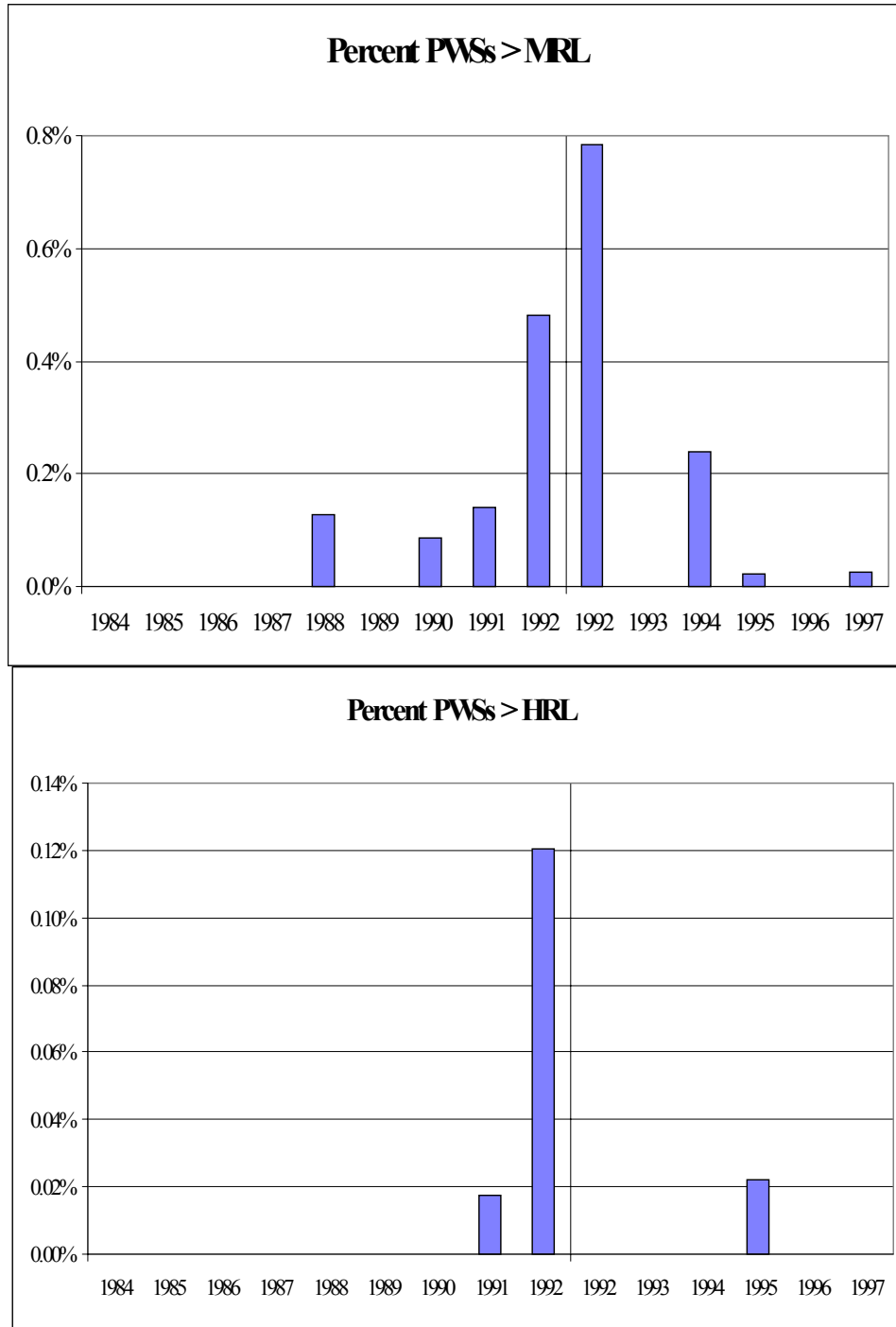
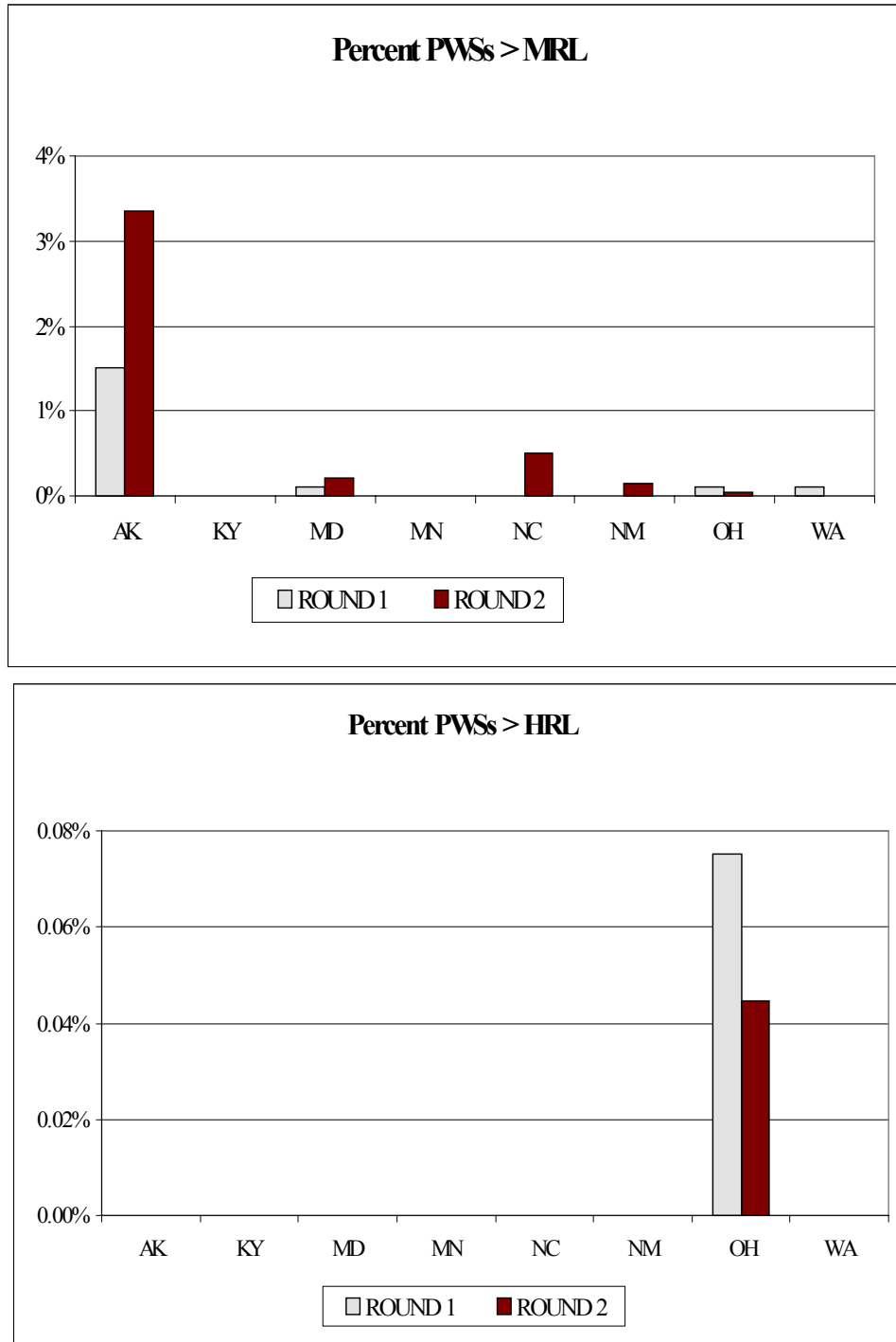


Figure VII.E.4. Hexachlorobutadiene Occurrence By Year (1984 - 1997) for Select Cross-Section States



Summary statistics by year are from 8 States: AK, KY, MD, MN, NC, NM, OH and WA. These are the only Cross-Section States with PWS hexachlorobutadiene data in both URCIS (Round 1) and SDWIS/FED (Round 2). The Health Reference Level (HRL) used for Hexachlorobutadiene is 0.9 µg/L. This is a draft value for working review only. There are data for 1992 in both URCIS (Round 1) and SDWIS/FED (Round 2).

Figure VII.E.5. Occurrence of Hexachlorobutadiene By State - URCIS (Round 1) and SDWIS/FED (Round 2) for Select Cross-Section States



The Health Reference Level (HRL) used for Hexachlorobutadiene is 0.9 µg/L. This is a draft value for working review only. These are the only Cross-Section States with PWS hexachlorobutadiene data in both URCIS (Round 1) and SDWIS/FED (Round 2).

VII.F. Naphthalene

Data availability for naphthalene in both URCIS (Round 1) and SDWIS/FED (Round 2) data enable development of additional occurrence maps to provide a somewhat broader picture of occurrence. Naphthalene appears to be of very widespread occurrence, though its occurrence does not appear to have a distinct geographic pattern (see Figure VII.F.1., which includes all States, both cross-section and non-cross-section States, from both the URCIS and SDWIS/FED databases). Thirty-two out of 43 States with PWS naphthalene data in URCIS (Round 1) and SDWIS/FED (Round 2) had at least one public water system with at least one analytical detection of naphthalene.

In Figure VII.F.2., occurrence relative to the MRL is presented for the URCIS cross-section States in the upper map and the SDWIS/FED cross-section States in the lower map. Generally, the maps reflect naphthalene's broad occurrence. In the upper map, 18 out of 22 URCIS (Round 1) States with naphthalene data have at least one PWS with at least one analytical detection (a sample analytical result greater than the MRL). In the lower map, 16 out of 20 SDWIS/FED (Round 2) States with naphthalene data have at least one PWS with at least one analytical detection (a sample analytical result greater than the MRL).

In Figure VII.F.3., the URCIS and SDWIS/FED cross-section States are combined to provide a broad coverage, measuring occurrence relative to the MRL in the upper map and to the HRL in the lower map. Though naphthalene, like hexachlorobutadiene, is of widespread occurrence, the characteristic of its occurrence is different. While naphthalene detections (sample analytical results greater than the MRL) are found in many States, naphthalene sample analytical results greater than the HRL (higher levels of occurrence) are uncommon. Twenty-seven out of 34 States have at least one PWS with at least one analytical detection (in the upper map of Figure VII.F.3.). In contrast, only one State out of 34 has at least one PWS with an analytical detection of naphthalene greater than the HRL.

Naphthalene occurrence over time is presented in Figures VII.F.4. and VII.F.5. The data used in these two figures are from the eight States that had naphthalene occurrence data in both URCIS and SDWIS/FED databases. In both figures, occurrence is measured relative to the MRL. In Figure VII.F.4., the graph suggests annual variability in occurrence, though no clear temporal trend is defined. In Figure VII.F.5, there might be an indication that detections of naphthalene are more common in Round 2 than in Round 1. While three States exhibit either the same number of or fewer PWSs with detections in Round 2, five of the eight States with data in both rounds exhibit an increase in the number detections from Round 1 to Round 2. Although a temporal trend is suggested here, note that this is based on only eight States that may or may not be representative of all States.

Figure VII.F.2. States with PWSs with detections of Naphthalene for Round 1 (above) and Round 2 (below) Cross-Section States

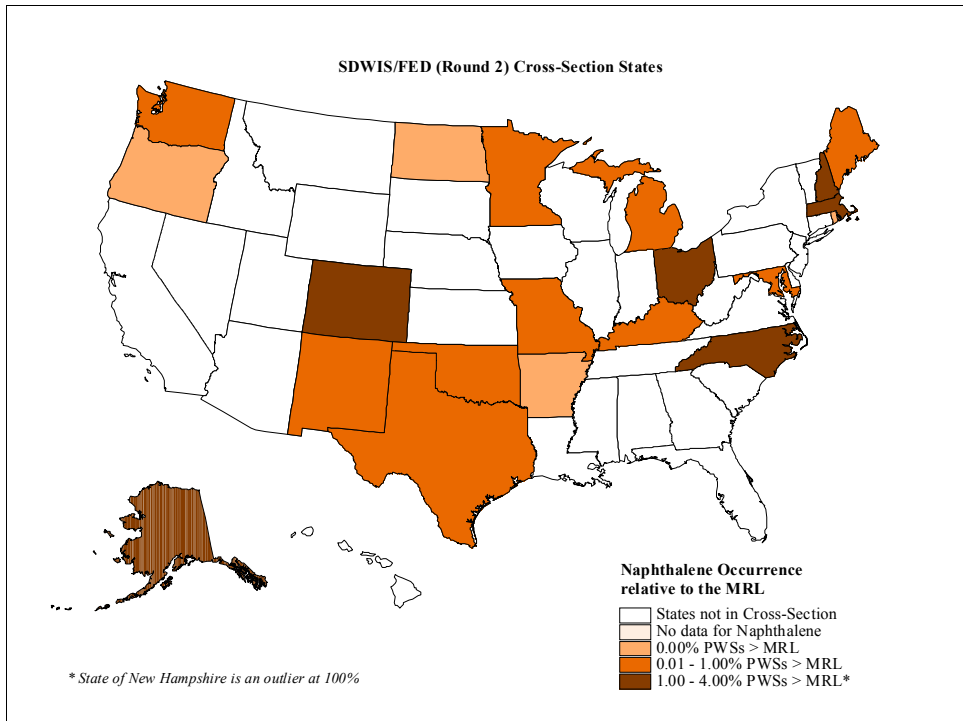
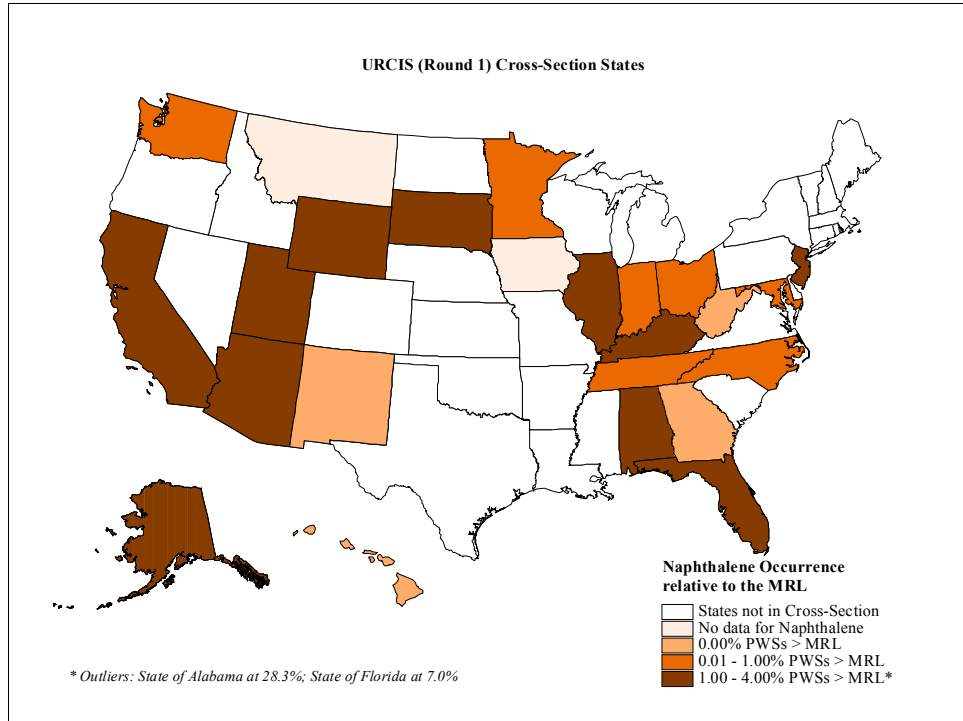


Figure VII.F.3. Round 1 and Round 2 Cross-Section States with PWSs with Naphthalene detections (upper map) and with concentrations above the Health Reference Level (lower map)

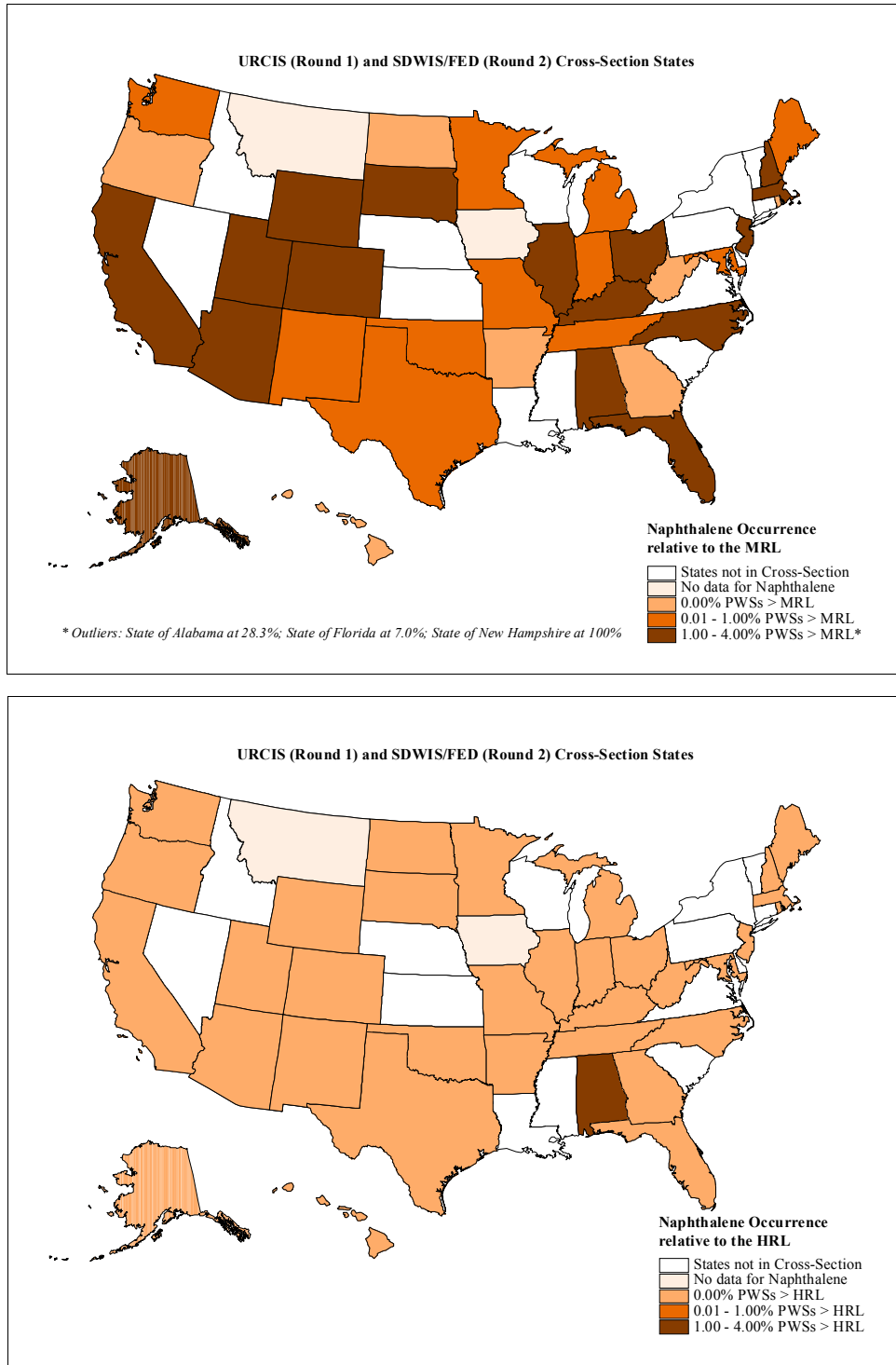
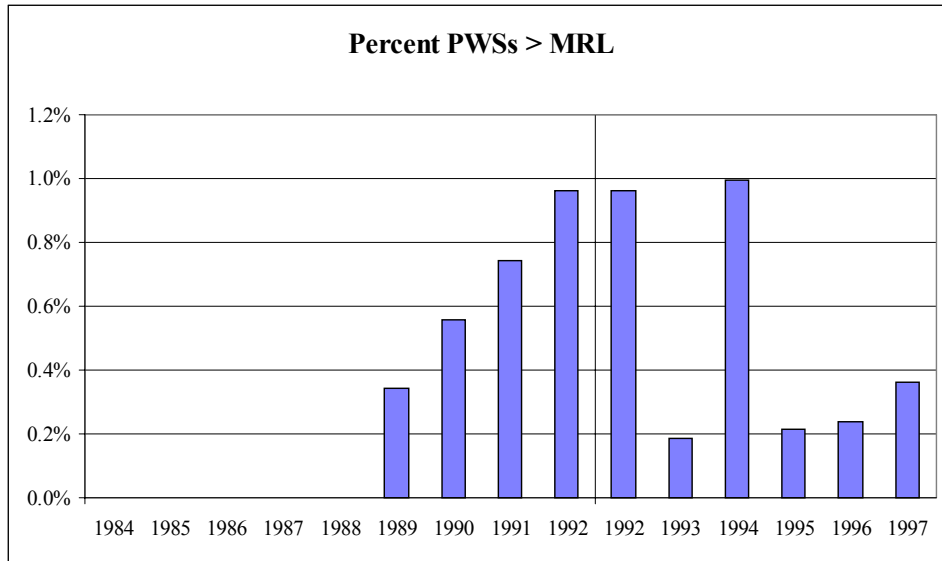
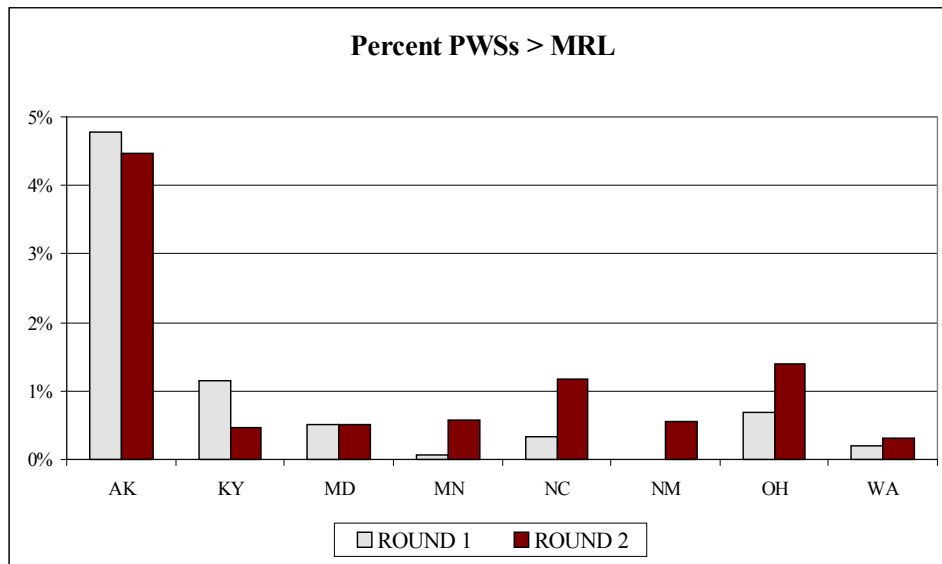


Figure VII.F.4. Naphthalene Occurrence By Year (1984 - 1997) from Select Cross-Section States



Summary statistics by year are from 8 States: AK, KY, MD, MN, NC, NM, OH and WA. These are the only Cross-Section States with PWS naphthalene data in both URCIS (Round 1) and SDWIS/FED (Round 2). There are data for 1992 in both URCIS (Round 1) and SDWIS/FED (Round 2).

Figure VII.F.5. Occurrence of Naphthalene By State - URCIS (Round 1) and SDWIS/FED (Round 2)



The Health Reference Level (HRL) used for Naphthalene is 140 µg/L. This is a draft value for working review only. There are no PWSs with analytical results exceeding the concentration value of the HRL for Naphthalene for these 8 States in URCIS (Round 1) or SDWIS/FED (Round 2). These are the only Cross-Section States with PWS naphthalene data in both URCIS and SDWIS/FED.

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APPENDICES

**ANALYSIS OF NATIONAL OCCURRENCE OF THE 1998 CONTAMINANT
CANDIDATE LIST (CCL) REGULATORY DETERMINATION PRIORITY
CONTAMINANTS IN PUBLIC WATER SYSTEMS**

Notes to Accompany Appendix Tables

The following tables present a summary of the analytical results and occurrence for the listed contaminants. The various measures and descriptive statistics shown on the tables include:

Total # Samples = the total number of analytical records for the contaminant in the state (or in the portion of the data indicated)

Total Unique PWS = the total number of public water systems with records for the contaminant in the state (or in the portion of the data indicated)

Minimum Value = the minimum analytical value of all analytical results for the contaminant in the state dataset (or in the portion of the data indicated)

99th Value = the concentration value of the 99th percentile of all analytical results for the contaminant in the state dataset (or in the portion of the data indicated)

Maximum Value = the maximum analytical value of all analytical results for the contaminant in the state dataset (or in the portion of the data indicated)

Minimum Detects = the minimum analytical value of all the detections (analytical results greater than the Minimum Reporting Level) for the contaminant in the state dataset (or in the portion of the data indicated)

Median Detects = the median analytical value of all the detections (analytical results greater than the Minimum Reporting Level) for the contaminant in the state dataset (or in the portion of the data indicated)

% PWS > MRL = percent of the total number of public water systems with at least one analytical result that exceeded the Minimum Reporting Level

% PWS > ½ HRL = percent of the total number of public water systems with at least one analytical result that exceeded half the Health Reference Level

% PWS > HRL = percent of the total number of public water systems with at least one analytical result that exceeded the Health Reference Level

Total = the total number of samples, unique PWSs, and percent PWSs exceeding the MRL, ½ HRL, or HRL are the summation of all values for all the states for the contaminant; i.e. Total = all data from 40 states/territories; 24 States = all data from cross-section of 24 states. The values indicated as “totals” for the analytical results, e.g. minimum value, 99th percentile value, etc., are similarly the value derived from the data from all states, or 24 states respectively.

Concentration values for URCIS (Round 1) data and SDWIS/FED (Round 2) data are measured in micrograms per liter (Fg/L).

Concentration values for NIRS data are measured in milligrams per liter (mg/L).

APPENDICES

- Appendix A. URCIS (Round 1) Data Summary for 2 CCL Contaminants**
- Appendix B. SDWIS/FED (Round 2) Data Summary for 6 CCL Contaminants**
- Appendix C. NIRS Data Summary for 2 CCL Contaminants**
- Appendix D. Comparison of URCIS (Round 1) Data to SDWIS/FED (Round 2) Data for Select States and Select Contaminants**
- Appendix E. Summary Data for URCIS (Round 1) and SDWIS/FED (Round 2) for Select Contaminants by System Type and Population Served**

Appendix A. URCIS (Round 1) Data Summary for 2 CCL Contaminants

Table A.1.a	UCM (1987) Data - Hexachlorobutadiene Occurrence in Public Water Systems
Table A.1.b	UCM (1987) Data - Hexachlorobutadiene Occurrence in Public Water Systems - Based on Number of Samples
Table A.1.c	UCM (1987) Data - Hexachlorobutadiene Occurrence in Public Water Systems - Based on Number of Systems
Table A.2.a	UCM (1987) Data - Naphthalene Occurrence in Public Water Systems
Table A.2.b	UCM (1987) Data - Naphthalene Occurrence in Public Water Systems - Based on Number of Samples
Table A.2.c	UCM (1987) Data - Naphthalene Occurrence in Public Water Systems - Based on Number of Systems

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table A.1.a URCIS (Round 1) Data- Hexachlorobutadiene Occurrence in Public Water Systems

STATE	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL	99% VALUE (µg/L)
AK	665	540	130	1.50%	1.48%	1.54%	0.00%	0.00%	0.00%	< 0.00
AL	131	93	42	3.05%	4.30%	0.00%	1.53%	2.15%	0.00%	0.50
AR										
AZ	448	407	47	0.89%	0.74%	2.13%	0.22%	0.00%	2.13%	< 2.00
CA	585	571	21	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 6.00
CO	6	3	4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.64
DC	1	0	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
DE	10	8	2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
FL	112	7	105	5.36%	0.00%	5.71%	5.36%	0.00%	5.71%	5.00
GA										
HI	127	112	16	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.30
IA										
IL	213	149	64	0.47%	0.67%	0.00%	0.00%	0.00%	0.00%	< 2.00
IN	357	321	37	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 2.00
KY	524	291	233	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 1.00
LA	13	9	4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
MA										
MD	983	936	50	0.10%	0.11%	0.00%	0.00%	0.00%	0.00%	< 0.50
MI										
MN	1,553	1,529	28	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
MO	85	71	14	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 20.00
MS										
MT										
NC	297	254	44	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
NE										
NH										
NJ	801	790	11	0.75%	0.76%	0.00%	0.25%	0.25%	0.00%	< 1.20
NM	590	555	35	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 1.00
NV	8	7	2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.20
NY	356	252	123	0.28%	0.40%	0.00%	0.28%	0.40%	0.00%	< 5.00
OH	2,655	2,493	166	0.11%	0.12%	0.00%	0.08%	0.08%	0.00%	< 2.00
SD	335	306	29	0.30%	0.33%	0.00%	0.00%	0.00%	0.00%	< 0.50
TN	303	156	147	0.33%	0.64%	0.00%	0.33%	0.64%	0.00%	< 0.50
TX	2	2	0	100.00%	100.00%	0.00%	100.00%	100.00%	0.00%	8.00
UT	411	391	34	1.22%	1.02%	2.94%	0.00%	0.00%	0.00%	< 5.00
VI	3	0	3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 1.00
VT										
WA	992	937	77	0.10%	0.11%	0.00%	0.00%	0.00%	0.00%	< 0.50
WV	57	26	31	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 4.00
WY	145	116	38	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 2.00
TOTAL	12,768	11,332	1,538	0.36%	0.32%	0.65%	0.12%	0.07%	0.46%	< 5.00
24 STATES	12,284	10,980	1,385	0.35%	0.30%	0.72%	0.11%	0.06%	0.51%	< 5.00

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Hexachlorobutadiene is 0.9 µg/L. This is a draft value for working review only.

The highlighted States are part of the URCIS 24 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table A.1.b URCIS (Round 1) Data- Hexachlorobutadiene Occurrence in Public Water Systems- Based on Number of Samples

STATE	TOTAL UNIQUE PWS	TOTAL # SAMPLES	# GW SAMPLES	# SW SAMPLES	% TOTAL SAMPLES > MRL	% GW SAMPLES > MRL	% SW SAMPLES > MRL	MIN VALUE (µg/L)	99% VALUE (µg/L)	MAX VALUE (µg/L)	MIN DETECTS (µg/L)	MEDIAN DETECTS (µg/L)
AK	665	1,745	1,480	265	0.63%	0.61%	0.75%	< 0.00	< 0.00	0.30	0.20	0.20
AL	131	351	244	107	1.14%	1.64%	0.00%	< 0.50	0.50	1.00	0.50	0.85
AR												
AZ	448	1,104	940	164	0.63%	0.32%	2.44%	< 0.05	< 2.00	10.00	0.05	10.00
CA	585	2,005	1,949	56	0.00%	0.00%	0.00%	< 0.00	< 6.00	< 10.00		
CO	6	9	5	4	0.00%	0.00%	0.00%	< 0.00	< 0.64	< 0.64		
DC	1	48	0	48	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 0.50		
DE	10	53	44	9	0.00%	0.00%	0.00%	< 0.40	< 0.50	< 0.50		
FL	112	130	10	120	4.62%	0.00%	5.00%	< 0.00	5.00	10.00	1.00	5.00
GA												
HI	127	1,221	1,081	140	0.00%	0.00%	0.00%	< 0.00	< 0.30	< 0.30		
IA												
IL	213	728	485	243	0.55%	0.82%	0.00%	< 0.05	< 2.00	0.17	0.05	0.17
IN	357	1,889	1,486	403	0.00%	0.00%	0.00%	< 0.09	< 2.00	< 5.00		
KY	524	2,076	1,119	957	0.00%	0.00%	0.00%	< 0.50	< 1.00	< 1.00		
LA	13	22	18	4	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 0.50		
MA												
MD	983	1,750	1,376	374	0.06%	0.07%	0.00%	< 0.10	< 0.50	0.10	0.10	0.10
MI												
MN	1,553	2,654	2,586	68	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 5.00		
MO	85	323	297	26	0.00%	0.00%	0.00%	< 0.20	< 20.00	< 20.00		
MS												
MT												
NC	297	644	569	75	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 0.50		
NE												
NH												
NJ	801	1,630	1,443	187	0.37%	0.42%	0.00%	< 0.00	< 1.20	1.00	0.05	0.12
NM	590	1,595	1,475	120	0.00%	0.00%	0.00%	< 0.00	< 1.00	< 5.00		
NV	8	148	136	12	0.00%	0.00%	0.00%	< 0.20	< 0.20	< 0.20		
NY	356	2,095	1,560	535	0.05%	0.06%	0.00%	< 0.11	< 5.00	3.00	3.00	3.00
OH	2,655	15,951	15,038	913	0.02%	0.02%	0.00%	< 0.20	< 2.00	2.00	0.50	2.00
SD	335	444	363	81	0.23%	0.28%	0.00%	< 0.16	< 0.50	0.16	0.16	0.16
TN	303	1,220	433	787	0.08%	0.23%	0.00%	< 0.02	< 0.50	4.20	4.20	4.20
TX	2	2	2	0	100.00%	100.00%	0.00%	6.00	8.00	8.00	6.00	7.00
UT	411	1,233	1,128	105	0.73%	0.71%	0.95%	< 0.10	< 5.00	0.20	0.10	0.20
VI	3	10	0	10	0.00%	0.00%	0.00%	< 1.00	< 1.00	< 1.00		
VT												
WA	992	3,987	3,656	331	0.03%	0.03%	0.00%	< 0.50	< 0.50	0.60	0.60	0.60
WV	57	169	64	105	0.00%	0.00%	0.00%	< 0.50	< 4.00	< 4.00		
WY	145	313	259	54	0.00%	0.00%	0.00%	< 0.60	< 2.00	< 2.00		
TOTAL	12,768	45,549	39,246	6,303	0.13%	0.11%	0.21%	< 0.00	< 5.00	10.00	0.05	0.30
24 STATES	12,284	42,839	37,184	5,655	0.13%	0.11%	0.23%	< 0.00	< 5.00	10.00	0.05	0.25

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)
 The highlighted States are part of the URCIS 24 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table A.1.c URCIS (Round 1) Data- Hexachlorobutadiene Occurrence in Public Water Systems- Based on Number of Systems

STATE	TOTAL # SAMPLES	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > 1/2 HRL	% GW PWS > 1/2 HRL	% SW PWS > 1/2 HRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL
AK	1,745	665	540	130	1.50%	1.48%	1.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AL	351	131	93	42	3.05%	4.30%	0.00%	3.05%	4.30%	0.00%	1.53%	2.15%	0.00%
AR													
AZ	1,104	448	407	47	0.89%	0.74%	2.13%	0.67%	0.49%	2.13%	0.22%	0.00%	2.13%
CA	2,005	585	571	21	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CO	9	6	3	4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
DC	48	1	0	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
DE	53	10	8	2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
FL	130	112	7	105	5.36%	0.00%	5.71%	5.36%	0.00%	5.71%	5.36%	0.00%	5.71%
GA													
HI	1,221	127	112	16	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IA													
IL	728	213	149	64	0.47%	0.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IN	1,889	357	321	37	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
KY	2,076	524	291	233	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
LA	22	13	9	4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MA													
MD	1,750	983	936	50	0.10%	0.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MI													
MN	2,654	1,553	1,529	28	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MO	323	85	71	14	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MS													
MT													
NC	644	297	254	44	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NE													
NH													
NJ	1,630	801	790	11	0.75%	0.76%	0.00%	0.25%	0.25%	0.00%	0.25%	0.25%	0.00%
NM	1,595	590	555	35	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NV	148	8	7	2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NY	2,095	356	252	123	0.28%	0.40%	0.00%	0.28%	0.40%	0.00%	0.28%	0.40%	0.00%
OH	15,951	2,655	2,493	166	0.11%	0.12%	0.00%	0.11%	0.12%	0.00%	0.08%	0.08%	0.00%
SD	444	335	306	29	0.30%	0.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TN	1,220	303	156	147	0.33%	0.64%	0.00%	0.33%	0.64%	0.00%	0.33%	0.64%	0.00%
TX	2	2	2	0	100.00%	100.00%	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0.00%
UT	1,233	411	391	34	1.22%	1.02%	2.94%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
VI	10	3	0	3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
VT													
WA	3,987	992	937	77	0.10%	0.11%	0.00%	0.10%	0.11%	0.00%	0.00%	0.00%	0.00%
WV	169	57	26	31	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WY	313	145	116	38	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	45,549	12,768	11,332	1,538	0.36%	0.32%	0.65%	0.18%	0.14%	0.46%	0.12%	0.07%	0.46%
24 STATES	42,839	12,284	10,980	1,385	0.35%	0.30%	0.72%	0.16%	0.12%	0.51%	0.11%	0.06%	0.51%

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Hexachlorobutadiene is 0.9 µg/L. This is a draft value for working review only.

The highlighted States are part of the URCIS 24 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table A.2.a URCIS (Round 1) Data- Naphthalene Occurrence in Public Water Systems

STATE	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL	99% VALUE (µg/L)
AK	669	543	131	4.78%	5.52%	1.53%	0.00%	0.00%	0.00%	0.80
AL	131	93	42	28.24%	32.26%	16.67%	1.53%	2.15%	0.00%	8.20
AR										
AZ	448	407	47	1.12%	0.98%	2.13%	0.00%	0.00%	0.00%	< 5.00
CA	609	592	27	1.15%	1.18%	0.00%	0.00%	0.00%	0.00%	< 10.00
CO	7	3	5	14.29%	0.00%	20.00%	0.00%	0.00%	0.00%	4.62
DC	1	0	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
DE	10	8	2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.60
FL	114	8	106	7.02%	0.00%	7.55%	0.00%	0.00%	0.00%	8.00
GA	1,161	1,052	109	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
HI	127	112	16	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.30
IA										
IL	214	150	64	1.87%	2.00%	1.56%	0.00%	0.00%	0.00%	< 2.00
IN	357	321	37	0.28%	0.31%	0.00%	0.00%	0.00%	0.00%	< 2.00
KY	524	291	233	1.15%	1.03%	1.29%	0.00%	0.00%	0.00%	< 1.00
LA	13	9	4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
MA	2	1	1	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	0.80
MD	983	936	50	0.51%	0.53%	0.00%	0.00%	0.00%	0.00%	< 0.50
MI										
MN	1,553	1,529	28	0.06%	0.07%	0.00%	0.00%	0.00%	0.00%	< 0.50
MO	85	71	14	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 50.00
MS	2	2	0	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	14.80
MT										
NC	297	254	44	0.34%	0.39%	0.00%	0.00%	0.00%	0.00%	< 0.50
NE	9	9	0	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	10.60
NH	1	1	0	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.97
NJ	783	772	11	1.02%	1.04%	0.00%	0.00%	0.00%	0.00%	< 2.00
NM	590	555	35	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 1.00
NV	8	7	2	12.50%	14.29%	0.00%	0.00%	0.00%	0.00%	< 0.20
NY	261	187	85	0.38%	0.00%	1.18%	0.00%	0.00%	0.00%	< 5.00
OH	2,651	2,489	166	0.68%	0.68%	0.60%	0.00%	0.00%	0.00%	< 2.00
SD	335	306	29	2.39%	2.29%	3.45%	0.00%	0.00%	0.00%	0.18
TN	303	156	147	0.99%	0.64%	1.36%	0.00%	0.00%	0.00%	< 0.50
TX	3	2	1	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	18.00
UT	409	389	34	1.96%	1.80%	2.94%	0.00%	0.00%	0.00%	< 10.00
VI	3	0	3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 1.00
VT										
WA	992	937	77	0.20%	0.21%	0.00%	0.00%	0.00%	0.00%	< 0.50
WV	57	26	31	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 4.00
WY	145	116	38	3.45%	2.59%	5.26%	0.00%	0.00%	0.00%	0.80
TOTAL	13,857	12,334	1,620	1.29%	1.18%	2.04%	0.01%	0.02%	0.00%	< 5.00
24 STATES	13,452	12,034	1,502	1.18%	1.08%	1.93%	0.01%	0.02%	0.00%	< 5.00

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type);

MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work as

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Naphthalene is 140 µg/L. This is a draft value for working review only.

The highlighted States are part of the URCIS 24 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table A.2.b URCIS (Round 1) Data- Naphthalene Occurrence in Public Water Systems- Based on Number of Samples

STATE	TOTAL UNIQUE PWS	TOTAL # SAMPLES	# GW SAMPLES	# SW SAMPLES	% TOTAL SAMPLES > MRL	% GW SAMPLES > MRL	% SW SAMPLES > MRL	MIN VALUE (µg/L)	99% VALUE (µg/L)	MAX VALUE (µg/L)	MIN DETECTS (µg/L)	MEDIAN DETECTS (µg/L)
AK	669	1,763	1,494	269	2.10%	2.34%	0.74%	< 0.00	0.80	13.10	0.28	0.80
AL	131	354	247	107	12.15%	14.17%	7.48%	< 0.50	8.20	906.00	0.50	1.00
AR												
AZ	448	1,099	935	164	0.73%	0.43%	2.44%	< 0.05	< 5.00	10.00	0.05	7.50
CA	609	2,284	2,167	117	0.79%	0.83%	0.00%	< 0.00	< 10.00	25.00	0.60	1.65
CO	7	11	5	6	9.09%	0.00%	16.67%	< 0.00	4.62	4.62	4.62	4.62
DC	1	48	0	48	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 0.50		
DE	10	53	44	9	0.00%	0.00%	0.00%	< 0.30	< 0.60	< 0.60		
FL	114	129	12	117	6.20%	0.00%	6.84%	< 0.00	8.00	10.00	1.00	5.00
GA	1,161	2,461	1,862	599	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 0.50		
HI	127	1,221	1,081	140	0.00%	0.00%	0.00%	< 0.00	< 0.30	< 0.30		
IA												
IL	214	730	486	244	0.55%	0.62%	0.41%	< 0.02	< 2.00	13.00	0.05	1.00
IN	357	1,889	1,486	403	0.05%	0.07%	0.00%	< 0.10	< 2.00	2.00	2.00	2.00
KY	524	2,076	1,119	957	0.48%	0.27%	0.73%	< 0.50	< 1.00	17.00	1.00	2.00
LA	13	22	18	4	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 0.50		
MA	2	2	1	1	100.00%	100.00%	100.00%	0.50	0.80	0.80	0.50	0.65
MD	983	1,749	1,375	374	0.29%	0.36%	0.00%	< 0.20	< 0.50	7.00	0.60	1.40
MI												
MN	1,553	2,656	2,588	68	0.04%	0.04%	0.00%	< 0.50	< 0.50	1.70	1.70	1.70
MO	85	323	297	26	0.00%	0.00%	0.00%	< 0.20	< 50.00	< 50.00		
MS	2	7	7	0	100.00%	100.00%	0.00%	0.50	14.80	14.80	0.50	1.30
MT												
NC	297	644	569	75	0.16%	0.18%	0.00%	< 0.50	< 0.50	2.25	2.25	2.25
NE	9	16	16	0	100.00%	100.00%	0.00%	0.40	10.60	10.60	0.40	0.90
NH	1	1	1	0	100.00%	100.00%	0.00%	0.97	0.97	0.97	0.97	0.97
NJ	783	1,604	1,417	187	0.50%	0.56%	0.00%	< 0.00	< 2.00	1.50	0.03	1.00
NM	590	1,595	1,475	120	0.00%	0.00%	0.00%	< 0.00	< 1.00	< 5.00		
NV	8	148	136	12	0.68%	0.74%	0.00%	< 0.20	< 0.20	0.40	0.40	0.40
NY	261	1,388	1,020	368	0.07%	0.00%	0.27%	< 0.04	< 5.00	0.60	0.60	0.60
OH	2,651	15,944	15,030	914	0.12%	0.12%	0.11%	< 0.00	< 2.00	19.00	0.50	1.00
SD	335	444	363	81	1.80%	1.93%	1.23%	< 0.15	0.18	0.45	0.15	0.20
TN	303	1,220	433	787	0.25%	0.23%	0.25%	< 0.06	< 0.50	3.80	0.70	1.00
TX	3	5	3	2	100.00%	100.00%	100.00%	1.80	18.00	18.00	1.80	3.90
UT	409	1,236	1,127	109	0.97%	0.98%	0.92%	< 0.10	< 10.00	6.00	0.50	0.50
VI	3	10	0	10	0.00%	0.00%	0.00%	< 1.00	< 1.00	< 1.00		
VT												
WA	992	3,987	3,656	331	0.13%	0.14%	0.00%	< 0.50	< 0.50	3.10	1.50	1.60
WV	57	169	64	105	0.00%	0.00%	0.00%	< 0.50	< 4.00	< 4.00		
WY	145	313	259	54	1.92%	1.16%	5.56%	< 0.10	0.80	2.80	0.30	0.90
TOTAL	13,857	47,601	40,793	6,808	0.49%	0.00%	0.63%	< 0.00	< 5.00	906.00	0.03	1.00
24 STATES	13,452	45,567	39,245	6,322	0.43%	0.00%	0.60%	< 0.00	< 5.00	906.00	0.03	1.00

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (The highlighted States are part of the URCIS 24 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table A.2.c URCIS (Round 1) Data- Naphthalene Occurrence in Public Water Systems- Based on Number of Systems

STATE	TOTAL # SAMPLES	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > 1/2 HRL	% GW PWS > 1/2 HRL	% SW PWS > 1/2 HRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL
AK	1,212	669	543	131	4.78%	5.52%	1.53%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AL	224	131	93	42	28.24%	32.26%	16.67%	1.53%	2.15%	0.00%	1.53%	2.15%	0.00%
AR													
AZ	855	448	407	47	1.12%	0.98%	2.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CA	1,201	609	592	27	1.15%	1.18%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CO	10	7	3	5	14.29%	0.00%	20.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
DC	1	1	0	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
DE	18	10	8	2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
FL	122	114	8	106	7.02%	0.00%	7.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
GA	2,213	1,161	1,052	109	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
HI	239	127	112	16	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IA													
IL	364	214	150	64	1.87%	2.00%	1.56%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IN	678	357	321	37	0.28%	0.31%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
KY	815	524	291	233	1.15%	1.03%	1.29%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
LA	22	13	9	4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MA	3	2	1	1	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MD	1,919	983	936	50	0.51%	0.53%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MI													
MN	3,082	1,553	1,529	28	0.06%	0.07%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MO	156	85	71	14	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MS	4	2	2	0	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MT													
NC	551	297	254	44	0.34%	0.39%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NE	18	9	9	0	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NH	2	1	1	0	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NJ	1,555	783	772	11	1.02%	1.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NM	1,145	590	555	35	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NV	15	8	7	2	12.50%	14.29%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NY	448	261	187	85	0.38%	0.00%	1.18%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OH	5,140	2,651	2,489	166	0.68%	0.68%	0.60%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SD	641	335	306	29	2.39%	2.29%	3.45%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TN	459	303	156	147	0.99%	0.64%	1.36%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TX	5	3	2	1	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
UT	798	409	389	34	1.96%	1.80%	2.94%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
VI	3	3	0	3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
VT													
WA	1,929	992	937	77	0.20%	0.21%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WV	83	57	26	31	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WY	261	145	116	38	3.45%	2.59%	5.26%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	26,191	13,857	12,334	1,620	1.29%	1.18%	2.04%	0.01%	0.02%	0.00%	0.01%	0.02%	0.00%
24 STATES	25,486	13,452	12,034	1,502	1.18%	1.08%	1.93%	0.01%	0.02%	0.00%	0.01%	0.02%	0.00%

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for I
The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.
"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.
The Health Reference Level (HRL) used for Naphthalene is 140 µg/L. This is a draft value for working review only.
The highlighted States are part of the URCIS 24 State Cross-Section.

Appendix B. SDWIS/FED (Round 2) Data Summary for 6 CCL Contaminants

Table B.1.a.1	UCM (1993) Data - Sulfate Occurrence in Public Water Systems (HRL = 500,000 Fg/L)
Table B.1.a.2	UCM (1993) Data - Sulfate Occurrence in Public Water Systems (HRL = 1,000,000 Fg/L)
Table B.1.b	UCM (1993) Data - Sulfate Occurrence in Public Water Systems - Based on Number of Samples
Table B.1.c.1	UCM (1993) Data - Sulfate Occurrence in Public Water Systems - Based on Number of Systems (HRL = 500,000 Fg/L)
Table B.1.c.2	UCM (1993) Data - Sulfate Occurrence in Public Water Systems - Based on Number of Systems (HRL = 1,000,000 Fg/L)
Table B.2.a	UCM (1993) Data - Aldrin Occurrence in Public Water Systems
Table B.2.b	UCM (1993) Data - Aldrin Occurrence in Public Water Systems - Based on Number of Samples
Table B.2.c	UCM (1993) Data - Aldrin Occurrence in Public Water Systems - Based on Number of Systems
Table B.3.a	UCM (1993) Data - Dieldrin Occurrence in Public Water Systems
Table B.3.b	UCM (1993) Data - Dieldrin Occurrence in Public Water Systems - Based on Number of Samples
Table B.3.c	UCM (1993) Data - Dieldrin Occurrence in Public Water Systems - Based on Number of Systems
Table B.4.a	UCM (1993) Data - Metribuzin Occurrence in Public Water Systems
Table B.4.b	UCM (1993) Data - Metribuzin Occurrence in Public Water Systems - Based on Number of Samples
Table B.4.c	UCM (1993) Data - Metribuzin Occurrence in Public Water Systems - Based on Number of Systems
Table B.5.a	UCM (1993) Data - Hexachlorobutadiene Occurrence in Public Water Systems
Table B.5.b	UCM (1993) Data - Hexachlorobutadiene Occurrence in Public Water Systems - Based on Number of Samples
Table B.5.c	UCM (1993) Data - Hexachlorobutadiene Occurrence in Public Water Systems - Based on Number of Systems
Table B.6.a	UCM (1993) Data - Naphthalene Occurrence in Public Water Systems
Table B.6.b	UCM (1993) Data - Naphthalene Occurrence in Public Water Systems - Based on Number of Samples
Table B.6.c	UCM (1993) Data - Naphthalene Occurrence in Public Water Systems - Based on Number of Systems

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.1.a.1 SDWIS/FED (Round 2) Data- Sulfate Occurrence in Public Water Systems (HRL = 500,000 µg/L)

STATE	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL	99% VALUE (µg/L)
Tribes (06)	7	7	0	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	190,000
AK										
AL	238	181	57	90.34%	92.27%	84.21%	0.00%	0.00%	0.00%	75,000
AR	481	380	101	88.57%	85.79%	99.01%	0.00%	0.00%	0.00%	68,600
AZ										
CA										
CO										
CT	83	42	41	96.39%	95.24%	97.56%	1.20%	2.38%	0.00%	94,000
IN										
KY	46	22	24	100.00%	100.00%	100.00%	2.17%	0.00%	4.17%	220,000
LA										
MA	69	54	15	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	65,900
MD	592	538	54	93.41%	92.75%	100.00%	0.00%	0.00%	0.00%	140,000
ME										
MI	3,058	2,952	106	94.05%	93.94%	97.17%	1.54%	1.59%	0.00%	509,000
MN	1,401	1,371	30	84.94%	84.68%	96.67%	3.57%	3.65%	0.00%	770,000
MO	1,244	1,141	103	91.96%	91.24%	100.00%	0.16%	0.09%	0.97%	205,000
MS	1,121	1,116	5	78.77%	78.94%	40.00%	0.09%	0.09%	0.00%	55,700
NC	511	498	13	4.50%	4.62%	0.00%	1.57%	1.61%	0.00%	709,000
ND										
NH	645	616	29	99.22%	99.19%	100.00%	0.00%	0.00%	0.00%	69,000
NJ										
NM	268	256	12	94.40%	94.53%	91.67%	4.10%	4.30%	0.00%	858,000
OH	2,100	1,931	169	94.81%	94.41%	99.41%	5.24%	5.54%	1.78%	20,000
OK	848	605	243	69.22%	71.07%	64.61%	1.42%	1.16%	2.06%	386,000
OR										
PA	927	668	259	95.25%	94.91%	96.14%	0.43%	0.30%	0.77%	203,000
RI										
SC	569	537	32	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5
SD										
TN	75	29	46	92.00%	89.66%	93.48%	0.00%	0.00%	0.00%	86,000
TX	4,479	3,943	536	93.44%	92.77%	98.32%	1.21%	1.09%	2.05%	486,000
VT	64	44	20	92.19%	95.45%	85.00%	0.00%	0.00%	0.00%	35,900
WA	753	702	51	73.17%	72.51%	82.35%	0.00%	0.00%	0.00%	13,000
WI										
TOTAL	19,579	17,633	1,946	85.45%	84.89%	90.49%	1.54%	1.58%	1.18%	510,000
20 STATES	16,495	15,009	1,486	88.11%	87.76%	91.66%	1.79%	1.83%	1.41%	560,000

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Sulfate is 500,000 µg/L. This is a draft value for working review only.

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Sulfate data were analyzed using two different HRLs and are, therefore, listed separately.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.1.a.2. SDWIS/FED (Round 2) Data- Sulfate Occurrence in Public Water Systems (HRL = 1,000,000 µg/L)

STATE	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL	99% VALUE (µg/L)
Tribes (06)	7	7	0	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	190,000
AK										
AL	238	181	57	90.34%	92.27%	84.21%	0.00%	0.00%	0.00%	75,000
AR	481	380	101	88.57%	85.79%	99.01%	0.00%	0.00%	0.00%	68,600
AZ										
CA										
CO										
CT	83	42	41	96.39%	95.24%	97.56%	1.20%	2.38%	0.00%	94,000
IN										
KY	46	22	24	100.00%	100.00%	100.00%	2.17%	0.00%	4.17%	220,000
LA										
MA	69	54	15	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	65,900
MD	592	538	54	93.41%	92.75%	100.00%	0.00%	0.00%	0.00%	140,000
ME										
MI	3,058	2,952	106	94.05%	93.94%	97.17%	0.00%	0.00%	0.00%	509,000
MN	1,401	1,371	30	84.94%	84.68%	96.67%	0.57%	0.58%	0.00%	770,000
MO	1,244	1,141	103	91.96%	91.24%	100.00%	0.00%	0.00%	0.00%	205,000
MS	1,121	1,116	5	78.77%	78.94%	40.00%	0.09%	0.09%	0.00%	55,700
NC	511	498	13	4.50%	4.62%	0.00%	0.00%	0.00%	0.00%	709,000
ND										
NH	645	616	29	99.22%	99.19%	100.00%	0.00%	0.00%	0.00%	69,000
NJ										
NM	268	256	12	94.40%	94.53%	91.67%	1.49%	1.56%	0.00%	858,000
OH	2,100	1,931	169	94.81%	94.41%	99.41%	1.67%	1.76%	0.59%	20,000
OK	848	605	243	69.22%	71.07%	64.61%	0.47%	0.33%	0.82%	386,000
OR										
PA	927	668	259	95.25%	94.91%	96.14%	0.00%	0.00%	0.00%	203,000
RI										
SC	569	537	32	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5
SD										
TN	75	29	46	92.00%	89.66%	93.48%	0.00%	0.00%	0.00%	86,000
TX	4,479	3,943	536	93.44%	92.77%	98.32%	0.29%	0.23%	0.75%	486,000
VT	64	44	20	92.19%	95.45%	85.00%	0.00%	0.00%	0.00%	35,900
WA	753	702	51	73.17%	72.51%	82.35%	0.00%	0.00%	0.00%	13,000
WI										
TOTAL	19,579	17,633	1,946	85.45%	84.89%	90.49%	0.34%	0.33%	0.41%	510,000
20 STATES	16,495	15,009	1,486	88.11%	87.76%	91.66%	0.39%	0.38%	0.54%	560,000

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Sulfate is 1,000,000 µg/L. This is a draft value for working review only.

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Sulfate data were analyzed using two different HRLs and are, therefore, listed separately.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.1.b SDWIS/FED (Round 2) Data- Sulfate Occurrence in Public Water Systems- Based on Number of Samples

STATE	TOTAL UNIQUE PWS	TOTAL # SAMPLES	# GW SAMPLES	# SW SAMPLES	% TOTAL SAMPLES > MRL	% GW SAMPLES > MRL	% SW SAMPLES > MRL	MIN VALUE (µg/L)	99% VALUE (µg/L)	MAX VALUE (µg/L)	MIN DETECTS (µg/L)	MEDIAN DETECTS (µg/L)
Tribes (06)	7	7	7	0	100.00%	100.00%	0.00%	10,800	190,000	190,000	10,800	39,700
AK												
AL	238	396	268	128	88.89%	89.93%	86.72%	< 0	75,000	330,400	282	8,595
AR	481	992	663	329	86.59%	81.00%	97.87%	< 0	68,600	161,900	1,200	9,300
AZ												
CA												
CO												
CT	83	818	252	566	92.79%	98.41%	90.28%	< 0	94,000	1,130,000	1	14,000
IN												
KY	46	223	113	110	87.44%	80.53%	94.55%	< 22	220,000	1,100,000	51	13,100
LA												
MA	69	120	81	39	100.00%	100.00%	100.00%	1	65,900	240,000	1	16,150
MD	592	790	658	132	92.66%	92.55%	93.18%	< 200	140,000	340,000	2,000	10,000
ME												
MI	3,058	17,165	16,310	855	90.01%	89.91%	91.81%	< 0	509,000	995,000	3,000	31,000
MN	1,401	2,430	2,383	47	82.55%	82.29%	95.74%	< 0	770,000	1,500,000	5,000	27,000
MO	1,244	2,391	2,052	339	90.84%	89.52%	98.82%	< 5,000	205,000	583,000	5,010	20,100
MS	1,121	3,139	3,108	31	62.15%	62.48%	29.03%	< 3	55,700	5,074,000	3	8,200
NC	511	581	564	17	4.82%	4.96%	0.00%	< 0	709,000	929,000	1,000	150,000
ND												
NH	645	685	644	41	99.12%	99.07%	100.00%	< 1,000	69,000	355,000	1,000	12,000
NJ												
NM	268	558	536	22	93.37%	93.66%	86.36%	< 2,000	858,000	2,437,000	2,000	47,000
OH	2,100	3,154	2,820	334	95.12%	94.68%	98.80%	< 100	20,000	5,454,000	335	64,000
OK	848	1,786	1,328	458	61.48%	64.31%	53.28%	< 0	386,000	2,176,000	12,300	49,850
OR												
PA	927	1,583	1,055	528	95.20%	94.31%	96.97%	< 0	203,000	836,000	10	21,000
RI												
SC	569	1,189	1,080	109	0.00%	0.00%	0.00%	< 0	< 5	< 5		
SD												
TN	75	253	57	196	77.47%	77.19%	77.55%	< 0	86,000	170,000	1,000	19,000
TX	4,479	7,642	5,800	1,842	92.41%	90.97%	96.96%	< 1,000	486,000	2,040,000	1,000	34,000
VT	64	118	75	43	77.12%	78.67%	74.42%	< 100	35,900	74,600	2,360	9,700
WA	753	1,967	1,696	271	65.84%	67.92%	52.77%	< 0	13,000	98,600	100	1,500
WI												
TOTAL	19,579	47,987	41,550	6,437	83.52%	82.88%	87.67%	< 0	510,000	5,454,000	1	26,000
20 STATES	16,495	40,484	35,648	4,836	86.99%	86.68%	89.25%	< 0	560,000	5,454,000	1	30,000

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.1.c.1 SDWIS/FED (Round 2) Data- Sulfate Occurrence in Public Water Systems- Based on Number of Systems (HRL = 500,000 µg/L)

STATE	TOTAL # SAMPLES	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > 1/2 HRL	% GW PWS > 1/2 HRL	% SW PWS > 1/2 HRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL
Tribes (06)	7	7	7	0	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK													
AL	396	238	181	57	90.34%	92.27%	84.21%	0.42%	0.00%	1.75%	0.00%	0.00%	0.00%
AR	992	481	380	101	88.57%	85.79%	99.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AZ													
CA													
CO													
CT	818	83	42	41	96.39%	95.24%	97.56%	1.20%	2.38%	0.00%	1.20%	2.38%	0.00%
IN													
KY	223	46	22	24	100.00%	100.00%	100.00%	4.35%	4.55%	4.17%	2.17%	0.00%	4.17%
LA													
MA	120	69	54	15	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MD	790	592	538	54	93.41%	92.75%	100.00%	0.51%	0.19%	3.70%	0.00%	0.00%	0.00%
ME													
MI	17,165	3,058	2,952	106	94.05%	93.94%	97.17%	3.37%	3.39%	2.83%	1.54%	1.59%	0.00%
MN	2,430	1,401	1,371	30	84.94%	84.68%	96.67%	7.57%	7.73%	0.00%	3.57%	3.65%	0.00%
MO	2,391	1,244	1,141	103	91.96%	91.24%	100.00%	0.88%	0.88%	0.97%	0.16%	0.09%	0.97%
MS	3,139	1,121	1,116	5	78.77%	78.94%	40.00%	0.09%	0.09%	0.00%	0.09%	0.09%	0.00%
NC	581	511	498	13	4.50%	4.62%	0.00%	2.15%	2.21%	0.00%	1.57%	1.61%	0.00%
ND													
NH	685	645	616	29	99.22%	99.19%	100.00%	0.31%	0.32%	0.00%	0.00%	0.00%	0.00%
NJ													
NM	558	268	256	12	94.40%	94.53%	91.67%	10.45%	9.77%	25.00%	4.10%	4.30%	0.00%
OH	3,154	2,100	1,931	169	94.81%	94.41%	99.41%	11.05%	11.34%	7.69%	5.24%	5.54%	1.78%
OK	1,786	848	605	243	69.22%	71.07%	64.61%	5.19%	5.12%	5.35%	1.42%	1.16%	2.06%
OR													
PA	1,583	927	668	259	95.25%	94.91%	96.14%	0.86%	0.45%	1.93%	0.43%	0.30%	0.77%
RI													
SC	1,189	569	537	32	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SD													
TN	253	75	29	46	92.00%	89.66%	93.48%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TX	7,642	4,479	3,943	536	93.44%	92.77%	98.32%	6.18%	4.72%	16.98%	1.21%	1.09%	2.05%
VT	118	64	44	20	92.19%	95.45%	85.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WA	1,967	753	702	51	73.17%	72.51%	82.35%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WI													
TOTAL	47,987	19,579	17,633	1,946	85.45%	84.89%	90.49%	4.24%	3.95%	6.83%	1.54%	1.58%	1.18%
20 STATES	40,484	16,495	15,009	1,486	88.11%	87.76%	91.66%	4.97%	4.61%	8.55%	1.79%	1.83%	1.41%

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Sulfate is 500,000 µg/L. This is a draft value for working review only.

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Sulfate data were analyzed using two different HRLs and are, therefore, listed separately.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.1.c.2 SDWIS/FED (Round 2) Data- Sulfate Occurrence in Public Water Systems- Based on Number of Systems (HRL = 1,000,000 µg/L)

STATE	TOTAL # SAMPLES	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > 1/2 HRL	% GW PWS > 1/2 HRL	% SW PWS > 1/2 HRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL
Tribes (06)	7	7	7	0	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK													
AL	396	238	181	57	90.34%	92.27%	84.21%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AR	992	481	380	101	88.57%	85.79%	99.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AZ													
CA													
CO													
CT	818	83	42	41	96.39%	95.24%	97.56%	1.20%	2.38%	0.00%	1.20%	2.38%	0.00%
IN													
KY	223	46	22	24	100.00%	100.00%	100.00%	2.17%	0.00%	4.17%	2.17%	0.00%	4.17%
LA													
MA	120	69	54	15	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MD	790	592	538	54	93.41%	92.75%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
ME													
MI	17,165	3,058	2,952	106	94.05%	93.94%	97.17%	1.54%	1.59%	0.00%	0.00%	0.00%	0.00%
MN	2,430	1,401	1,371	30	84.94%	84.68%	96.67%	3.57%	3.65%	0.00%	0.57%	0.58%	0.00%
MO	2,391	1,244	1,141	103	91.96%	91.24%	100.00%	0.16%	0.09%	0.97%	0.00%	0.00%	0.00%
MS	3,139	1,121	1,116	5	78.77%	78.94%	40.00%	0.09%	0.09%	0.00%	0.09%	0.09%	0.00%
NC	581	511	498	13	4.50%	4.62%	0.00%	1.57%	1.61%	0.00%	0.00%	0.00%	0.00%
ND													
NH	685	645	616	29	99.22%	99.19%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NJ													
NM	558	268	256	12	94.40%	94.53%	91.67%	4.10%	4.30%	0.00%	1.49%	1.56%	0.00%
OH	3,154	2,100	1,931	169	94.81%	94.41%	99.41%	5.24%	5.54%	1.78%	1.67%	1.76%	0.59%
OK	1,786	848	605	243	69.22%	71.07%	64.61%	1.42%	1.16%	2.06%	0.47%	0.33%	0.82%
OR													
PA	1,583	927	668	259	95.25%	94.91%	96.14%	0.43%	0.30%	0.77%	0.00%	0.00%	0.00%
RI													
SC	1,189	569	537	32	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SD													
TN	253	75	29	46	92.00%	89.66%	93.48%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TX	7,642	4,479	3,943	536	93.44%	92.77%	98.32%	1.21%	1.09%	2.05%	0.29%	0.23%	0.75%
VT	118	64	44	20	92.19%	95.45%	85.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WA	1,967	753	702	51	73.17%	72.51%	82.35%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WI													
TOTAL	47,987	19,579	17,633	1,946	85.45%	84.89%	90.49%	1.54%	1.58%	1.18%	0.34%	0.33%	0.41%
20 STATES	40,484	16,495	15,009	1,486	88.11%	87.76%	91.66%	1.79%	1.83%	1.41%	0.39%	0.38%	0.54%

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Sulfate is 1,000,000 µg/L. This is a draft value for working review only.

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Sulfate data were analyzed using two different HRLs and are, therefore, listed separately.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.2.a SDWIS/FED (Round 2) Data- Aldrin Occurrence in Public Water Systems

STATE	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL	99% VALUE (µg/L)
Tribes (06)	26	25	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
AK	34	24	10	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
AL	16	11	5	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	0.68
AR	536	431	105	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
AZ										
CA										
CO	750	538	212	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
CT	70	35	35	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
IN										
KY	366	184	182	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 2.00
LA	1,363	1,295	68	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.01
MA	56	29	27	17.86%	17.24%	18.52%	17.86%	17.24%	18.52%	4.40
MD	726	669	57	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 1.00
ME										
MI	2,650	2,570	80	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
MN	1,264	1,234	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
MO	378	280	98	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.10
MS	12	11	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
NC	536	490	46	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
ND	296	258	38	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.01
NH	593	560	33	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
NJ										
NM	720	691	29	0.14%	0.14%	0.00%	0.14%	0.14%	0.00%	< 1.00
OH	1,029	882	147	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 30.00
OK	98	76	22	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
OR	1,152	999	153	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
PA	68	57	11	5.88%	7.02%	0.00%	5.88%	7.02%	0.00%	0.10
RI	24	15	9	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.20
SC	939	841	98	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
SD										
TN	7	2	5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
TX	427	122	305	0.23%	0.82%	0.00%	0.23%	0.82%	0.00%	< 0.20
VT	401	349	52	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
WA	586	517	69	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
WI										
TOTAL	15,123	13,195	1,928	0.21%	0.17%	0.52%	0.21%	0.17%	0.52%	< 1.00
20 STATES	12,221	10,569	1,652	0.10%	0.07%	0.30%	0.10%	0.07%	0.30%	< 2.00
19 STATES¹	12,165	10,540	1,625	0.02%	0.02%	0.00%	0.02%	0.02%	0.00%	< 2.00

1. Massachusetts data not included in "19 States" summary statistics for Aldrin.

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Aldrin is 0.002 µg/L. This is a draft value for working review only.

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.2.b SDWIS/FED (Round 2) Data- Aldrin Occurrence in Public Water Systems- Based on Number of Samples

STATE	TOTAL UNIQUE PWS	TOTAL # SAMPLES	# GW SAMPLES	# SW SAMPLES	% TOTAL SAMPLES > MRL	% GW SAMPLES > MRL	% SW SAMPLES > MRL	MIN VALUE (µg/L)	99% VALUE (µg/L)	MAX VALUE (µg/L)	MIN DETECTS (µg/L)	MEDIAN DETECTS (µg/L)
Tribes (06)	26	36	35	1	0.00%	0.00%	0.00%	< 0.02	< 0.50	< 0.50		
AK	34	69	55	14	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
AL	16	25	17	8	100.00%	100.00%	100.00%	0.07	0.68	0.68	0.07	0.12
AR	536	1,610	1,225	385	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
AZ												
CA												
CO	750	2,226	1,366	860	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
CT	70	312	112	200	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
IN												
KY	366	1,557	753	804	0.00%	0.00%	0.00%	< 0.01	< 2.00	< 2.00		
LA	1,363	3,333	3,152	181	0.00%	0.00%	0.00%	< 0.01	< 0.01	< 0.01		
MA	56	184	76	108	13.04%	17.11%	10.19%	< 0.08	4.40	4.40	0.10	0.84
MD	726	1,395	1,155	240	0.00%	0.00%	0.00%	< 0.01	< 1.00	< 50.00		
ME												
MI	2,650	4,089	3,781	308	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
MN	1,264	6,033	5,754	279	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
MO	378	1,053	415	638	0.00%	0.00%	0.00%	< 0.05	< 0.10	< 0.10		
MS	12	29	25	4	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
NC	536	742	684	58	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
ND	296	383	316	67	0.00%	0.00%	0.00%	< 0.00	< 0.01	< 0.01		
NH	593	614	579	35	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
NJ												
NM	720	4,268	4,075	193	0.02%	0.02%	0.00%	< 0.01	< 1.00	0.46	0.46	0.46
OH	1,029	1,293	1,066	227	0.00%	0.00%	0.00%	< 0.00	< 30.00	< 30.00		
OK	98	120	96	24	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
OR	1,152	2,682	2,111	571	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
PA	68	179	131	48	2.23%	3.05%	0.00%	< 0.00	0.10	0.10	0.10	0.10
RI	24	263	122	141	0.00%	0.00%	0.00%	< 0.00	< 0.20	< 0.20		
SC	939	5,705	4,710	995	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
SD												
TN	7	46	16	30	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
TX	427	1,479	193	1,286	0.07%	0.52%	0.00%	< 0.20	< 0.20	0.69	0.69	0.69
VT	401	633	506	127	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.44		
WA	586	1,207	1,005	202	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
WI												
TOTAL	15,123	41,565	33,531	8,034	0.13%	0.11%	0.24%	< 0.00	< 1.00	4.40	0.07	0.18
20 STATES	12,221	31,267	24,827	6,440	0.08%	0.06%	0.17%	< 0.00	< 2.00	4.40	0.10	0.84
19 STATES¹	12,165	31,083	24,751	6,332	0.01%	0.01%	0.00%	< 0.00	< 2.00	0.69	0.46	0.58

1. Massachusetts data not included in "19 States" summary statistics for Aldrin.

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.2.c SDWIS/FED (Round 2) Data- Aldrin Occurrence in Public Water Systems- Based on Number of Systems

STATE	TOTAL # SAMPLES	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > 1/2 HRL	% GW PWS > 1/2 HRL	% SW PWS > 1/2 HRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL
Tribes (06)	36	26	25	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK	69	34	24	10	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AL	25	16	11	5	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
AR	1,610	536	431	105	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AZ													
CA													
CO	2,226	750	538	212	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CT	312	70	35	35	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IN													
KY	1,557	366	184	182	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
LA	3,333	1,363	1,295	68	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MA	184	56	29	27	17.86%	17.24%	18.52%	17.86%	17.24%	18.52%	17.86%	17.24%	18.52%
MD	1,395	726	669	57	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
ME													
MI	4,089	2,650	2,570	80	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MN	6,033	1,264	1,234	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MO	1,053	378	280	98	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MS	29	12	11	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NC	742	536	490	46	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
ND	383	296	258	38	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NH	614	593	560	33	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NJ													
NM	4,268	720	691	29	0.14%	0.14%	0.00%	0.14%	0.14%	0.00%	0.14%	0.14%	0.00%
OH	1,293	1,029	882	147	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OK	120	98	76	22	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OR	2,682	1,152	999	153	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PA	179	68	57	11	5.88%	7.02%	0.00%	5.88%	7.02%	0.00%	5.88%	7.02%	0.00%
RI	263	24	15	9	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SC	5,705	939	841	98	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SD													
TN	46	7	2	5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TX	1,479	427	122	305	0.23%	0.82%	0.00%	0.23%	0.82%	0.00%	0.23%	0.82%	0.00%
VT	633	401	349	52	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WA	1,207	586	517	69	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WI													
TOTAL	41,565	15,123	13,195	1,928	0.21%	0.17%	0.52%	0.21%	0.17%	0.52%	0.21%	0.17%	0.52%
20 STATES	31,267	12,221	10,569	1,652	0.10%	0.07%	0.30%	0.10%	0.07%	0.30%	0.10%	0.07%	0.30%
19 STATES¹	31,083	12,165	10,540	1,625	0.02%	0.02%	0.00%	0.02%	0.02%	0.00%	0.02%	0.02%	0.00%

1. Massachusetts data not included in "19 States" summary statistics for Aldrin.

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Aldrin is 0.002 µg/L. This is a draft value for working review only.

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.3.a SDWIS/FED (Round 2) Data- Dieldrin Occurrence in Public Water Systems

STATE	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL	99% VALUE (µg/L)
Tribes (06)	25	24	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.10
AK	16	12	4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
AL	4	4	0	100.00%	0.00%	0.00%	100.00%	100.00%	0.00%	0.10
AR	536	431	105	0.19%	0.00%	0.95%	0.19%	0.00%	0.95%	< 0.00
AZ										
CA										
CO	749	537	212	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
CT	70	35	35	1.43%	0.00%	2.86%	1.43%	0.00%	2.86%	< 0.00
IN										
KY	44	20	24	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.21
LA	1,363	1,295	68	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.07
MA	55	28	27	18.18%	17.86%	18.52%	18.18%	17.86%	18.52%	4.40
MD	725	668	57	0.97%	0.90%	1.75%	0.97%	0.90%	1.75%	< 1.00
ME										
MI	2,650	2,570	80	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
MN	1,264	1,234	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
MO	378	280	98	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.10
MS	12	11	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
NC	522	475	47	0.38%	0.42%	0.00%	0.38%	0.42%	0.00%	< 0.00
ND	296	258	38	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.01
NH	593	560	33	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
NJ										
NM	716	687	29	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.20
OH	1,029	883	146	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 20.00
OK	98	76	22	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
OR	1,148	995	153	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
PA	67	56	11	7.46%	8.93%	0.00%	7.46%	8.93%	0.00%	0.10
RI	15	6	9	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.30
SC	939	841	98	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
SD										
TN	7	2	5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
TX	427	122	305	0.23%	0.82%	0.00%	0.23%	0.82%	0.00%	< 0.20
VT	395	343	52	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
WA	582	515	67	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
WI										
TOTAL	14,725	12,968	1,757	0.21%	0.18%	0.46%	0.21%	0.18%	0.46%	< 0.30
20 STATES	11,843	10,357	1,486	0.18%	0.14%	0.47%	0.18%	0.14%	0.47%	< 1.00
19 STATES¹	11,788	10,329	1,459	0.09%	0.09%	0.14%	0.09%	0.09%	0.14%	< 1.00

1. Massachusetts data not included in "19 States" summary statistics for Dieldrin.

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Dieldrin is 0.002 µg/L. This is a draft value for working review only.

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.3.b SDWIS/FED (Round 2) Data- Dieldrin Occurrence in Public Water Systems- Based on Number of Samples

STATE	TOTAL UNIQUE PWS	TOTAL # SAMPLES	# GW SAMPLES	# SW SAMPLES	% TOTAL SAMPLES > MRL	% GW SAMPLES > MRL	% SW SAMPLES > MRL	MIN VALUE (µg/L)	99% VALUE (µg/L)	MAX VALUE (µg/L)	MIN DETECTS (µg/L)	MEDIAN DETECTS (µg/L)
Tribes (06)	25	35	34	1	0.00%	0.00%	0.00%	< 0.01	< 0.10	< 0.10		
AK	16	19	15	4	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
AL	4	5	5	0	100.00%	0.00%	0.00%	0.01	0.10	0.10	0.01	0.04
AR	536	1,610	1,225	385	0.06%	0.00%	0.26%	< 0.00	< 0.00	0.06	0.06	0.06
AZ												
CA												
CO	749	2,226	1,365	861	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
CT	70	326	116	210	0.31%	0.00%	0.48%	< 0.00	< 0.00	0.01	0.01	0.01
IN												
KY	44	215	87	128	0.00%	0.00%	0.00%	< 0.01	< 0.21	< 0.88		
LA	1,363	3,333	3,152	181	0.00%	0.00%	0.00%	< 0.07	< 0.07	< 0.07		
MA	55	181	74	107	13.26%	17.57%	10.28%	< 0.02	4.40	4.40	0.50	4.40
MD	725	1,392	1,156	236	0.86%	0.95%	0.42%	< 0.01	< 1.00	0.35	0.02	0.12
ME												
MI	2,650	4,089	3,781	308	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
MN	1,264	5,985	5,706	279	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
MO	378	1,053	415	638	0.00%	0.00%	0.00%	< 0.05	< 0.10	< 0.10		
MS	12	29	25	4	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
NC	522	757	699	58	0.40%	0.43%	0.00%	< 0.00	< 0.00	0.20	0.10	0.10
ND	296	383	316	67	0.00%	0.00%	0.00%	< 0.00	< 0.01	< 0.01		
NH	593	614	579	35	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
NJ												
NM	716	4,263	4,071	192	0.00%	0.00%	0.00%	< 0.03	< 0.20	< 1.00		
OH	1,029	1,291	1,066	225	0.00%	0.00%	0.00%	< 0.00	< 20.00	< 20.00		
OK	98	120	96	24	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
OR	1,148	2,661	2,096	565	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
PA	67	175	127	48	2.86%	3.94%	0.00%	< 0.00	0.10	0.13	0.10	0.10
RI	15	254	111	143	0.00%	0.00%	0.00%	< 0.00	< 0.30	< 0.30		
SC	939	5,698	4,703	995	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
SD												
TN	7	46	16	30	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
TX	427	1,477	193	1,284	0.20%	1.55%	0.00%	< 0.20	< 0.20	1.36	0.73	0.90
VT	395	624	494	130	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.44		
WA	582	1,194	994	200	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
WI												
TOTAL	14,725	40,055	32,717	7,338	0.13%	0.12%	0.19%	< 0.00	< 0.30	4.40	0.01	0.42
20 STATES	11,843	29,784	24,045	5,739	0.14%	0.12%	0.23%	< 0.00	< 1.00	4.40	0.02	0.50
19 STATES¹	11,788	29,603	23,971	5,632	0.06%	0.07%	0.04%	< 0.00	< 1.00	1.36	0.02	0.16

1. Massachusetts data not included in "19 States" summary statistics for Dieldrin.

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.3.c SDWIS/FED (Round 2) Data- Dieldrin Occurrence in Public Water Systems- Based on Number of Systems

STATE	TOTAL # SAMPLES	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > 1/2 HRL	% GW PWS > 1/2 HRL	% SW PWS > 1/2 HRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL
Tribes (06)	35	25	24	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK	19	16	12	4	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AL	5	4	4	0	100.00%	0.00%	0.00%	100.00%	100.00%	0.00%	100.00%	100.00%	0.00%
AR	1,610	536	431	105	0.19%	0.00%	0.95%	0.19%	0.00%	0.95%	0.19%	0.00%	0.95%
AZ													
CA													
CO	2,226	749	537	212	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CT	326	70	35	35	1.43%	0.00%	2.86%	1.43%	0.00%	2.86%	1.43%	0.00%	2.86%
IN													
KY	215	44	20	24	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
LA	3,333	1,363	1,295	68	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MA	181	55	28	27	18.18%	17.86%	18.52%	18.18%	17.86%	18.52%	18.18%	17.86%	18.52%
MD	1,392	725	668	57	0.97%	0.90%	1.75%	0.97%	0.90%	1.75%	0.97%	0.90%	1.75%
ME													
MI	4,089	2,650	2,570	80	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MN	5,985	1,264	1,234	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MO	1,053	378	280	98	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MS	29	12	11	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NC	757	522	475	47	0.38%	0.42%	0.00%	0.38%	0.42%	0.00%	0.38%	0.42%	0.00%
ND	383	296	258	38	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NH	614	593	560	33	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NJ													
NM	4,263	716	687	29	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OH	1,291	1,029	883	146	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OK	120	98	76	22	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OR	2,661	1,148	995	153	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PA	175	67	56	11	7.46%	8.93%	0.00%	7.46%	8.93%	0.00%	7.46%	8.93%	0.00%
RI	254	15	6	9	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SC	5,698	939	841	98	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SD													
TN	46	7	2	5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TX	1,477	427	122	305	0.23%	0.82%	0.00%	0.23%	0.82%	0.00%	0.23%	0.82%	0.00%
VT	624	395	343	52	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WA	1,194	582	515	67	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WI													
TOTAL	40,055	14,725	12,968	1,757	0.21%	0.18%	0.46%	0.21%	0.18%	0.46%	0.21%	0.18%	0.46%
20 STATES	29,784	11,843	10,357	1,486	0.18%	0.14%	0.47%	0.18%	0.14%	0.47%	0.18%	0.14%	0.47%
19 STATES¹	29,603	11,788	10,329	1,459	0.09%	0.09%	0.14%	0.09%	0.09%	0.14%	0.09%	0.09%	0.14%

1. Massachusetts data not included in "19 States" summary statistics for Dieldrin.

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Dieldrin is 0.002 µg/L. This is a draft value for working review only.

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.4.a SDWIS/FED (Round 2) Data- Metribuzin Occurrence in Public Water Systems

STATE	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL	99% VALUE (µg/L)
Tribes (06)	1	1	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.09
AK	20	17	3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
AL										
AR	536	431	105	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
AZ										
CA										
CO	750	538	212	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
CT	69	35	34	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
IN										
KY	418	204	214	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 10.00
LA										
MA	56	29	27	14.29%	13.79%	14.81%	0.00%	0.00%	0.00%	2.00
MD	684	627	57	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.30
ME										
MI	2,650	2,570	80	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
MN	1,264	1,234	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
MO	538	437	101	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
MS										
NC	623	567	56	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
ND	296	258	38	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.02
NH	557	524	33	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
NJ										
NM	715	686	29	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.60
OH	2,178	2,017	161	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 2.00
OK	107	82	25	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
OR	1,135	984	151	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
PA	358	231	127	9.50%	5.63%	16.54%	0.00%	0.00%	0.00%	3.00
RI	15	6	9	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.53
SC	940	842	98	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
SD										
TN	7	2	5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
TX	426	121	305	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.20
VT	390	338	52	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
WA	600	530	70	0.17%	0.19%	0.00%	0.00%	0.00%	0.00%	< 0.00
WI										
TOTAL	15,333	13,311	2,022	0.28%	0.14%	1.24%	0.00%	0.00%	0.00%	< 2.00
20 STATES	13,568	11,862	1,706	0.07%	0.04%	0.23%	0.00%	0.00%	0.00%	< 2.00
19 STATES¹	13,512	11,833	1,679	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	< 2.00

1. Massachusetts data not included in "19 States" summary statistics for Metribuzin.

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Metribuzin is 91 µg/L. This is a draft value for working review only.

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.4.b SDWIS/FED (Round 2) Data- Metribuzin Occurrence in Public Water Systems- Based on Number of Samples

STATE	TOTAL UNIQUE PWS	TOTAL # SAMPLES	# GW SAMPLES	# SW SAMPLES	% TOTAL SAMPLES > MRL	% GW SAMPLES > MRL	% SW SAMPLES > MRL	MIN VALUE (µg/L)	99% VALUE (µg/L)	MAX VALUE (µg/L)	MIN DETECTS (µg/L)	MEDIAN DETECTS (µg/L)
Tribes (06)	1	3	3	0	0.00%	0.00%	0.00%	< 0.09	< 0.09	< 0.09		
AK	20	26	22	4	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
AL												
AR	536	1,610	1,225	385	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
AZ												
CA												
CO	750	2,229	1,366	863	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
CT	69	314	113	201	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
IN												
KY	418	1,945	867	1,078	0.00%	0.00%	0.00%	< 0.04	< 10.00	< 1010.00		
LA												
MA	56	187	76	111	8.02%	14.47%	3.60%	< 0.15	2.00	2.00	1.10	1.10
MD	684	1,101	895	206	0.00%	0.00%	0.00%	< 0.05	< 0.30	< 50.00		
ME												
MI	2,650	4,162	3,780	382	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
MN	1,264	5,985	5,706	279	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
MO	538	1,798	780	1,018	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 0.50		
MS												
NC	623	872	804	68	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
ND	296	383	316	67	0.00%	0.00%	0.00%	< 0.00	< 0.02	< 0.02		
NH	557	576	541	35	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
NJ												
NM	715	4,288	4,094	194	0.00%	0.00%	0.00%	< 0.03	< 0.60	< 1.00		
OH	2,178	4,039	3,762	277	0.00%	0.00%	0.00%	< 0.02	< 2.00	< 4.00		
OK	107	129	100	29	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
OR	1,135	2,529	1,972	557	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
PA	358	1,488	744	744	5.65%	4.17%	7.12%	< 0.00	3.00	3.00	0.10	1.00
RI	15	188	82	106	0.00%	0.00%	0.00%	< 0.00	< 0.53	< 0.53		
SC	940	5,703	4,708	995	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
SD												
TN	7	46	16	30	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
TX	426	1,481	192	1,289	0.00%	0.00%	0.00%	< 0.20	< 0.20	< 0.20		
VT	390	608	481	127	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.44		
WA	600	1,166	964	202	0.09%	0.10%	0.00%	< 0.00	< 0.00	0.10	0.10	0.10
WI												
TOTAL	15,333	42,856	33,609	9,247	0.23%	0.13%	0.62%	< 0.00	< 2.00	3.00	0.10	1.00
20 STATES	13,568	34,694	27,544	7,150	0.05%	0.04%	0.06%	< 0.00	< 2.00	2.00	0.10	1.10
19 STATES¹	13,512	34,507	27,468	7,039	0.00%	0.00%	0.00%	< 0.00	< 2.00	0.10	0.10	0.10

1. Massachusetts data not included in "19 States" summary statistics for Metribuzin.

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.4.c SDWIS/FED (Round 2) Data- Metribuzin Occurrence in Public Water Systems- Based on Number of Systems

STATE	TOTAL # SAMPLES	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > 1/2 HRL	% GW PWS > 1/2 HRL	% SW PWS > 1/2 HRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL
Tribes (06)	3	1	1	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK	26	20	17	3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AL													
AR	1,610	536	431	105	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AZ													
CA													
CO	2,229	750	538	212	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CT	314	69	35	34	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IN													
KY	1,945	418	204	214	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
LA													
MA	187	56	29	27	14.29%	13.79%	14.81%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MD	1,101	684	627	57	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
ME													
MI	4,162	2,650	2,570	80	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MN	5,985	1,264	1,234	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MO	1,798	538	437	101	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MS													
NC	872	623	567	56	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
ND	383	296	258	38	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NH	576	557	524	33	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NJ													
NM	4,288	715	686	29	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OH	4,039	2,178	2,017	161	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OK	129	107	82	25	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OR	2,529	1,135	984	151	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PA	1,488	358	231	127	9.50%	5.63%	16.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
RI	188	15	6	9	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SC	5,703	940	842	98	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SD													
TN	46	7	2	5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TX	1,481	426	121	305	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
VT	608	390	338	52	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WA	1,166	600	530	70	0.17%	0.19%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WI													
TOTAL	42,856	15,333	13,311	2,022	0.28%	0.14%	1.24%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
20 STATES	34,694	13,568	11,862	1,706	0.07%	0.04%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
19 STATES	34,507	13,512	11,833	1,679	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

1. Massachusetts data not included in "19 States" summary statistics for Metribuzin.

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Metribuzin is 91 µg/L. This is a draft value for working review only.

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.5.a SDWIS/FED (Round 2) Data- Hexachlorobutadiene Occurrence in Public Water Systems

STATE	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL	99% VALUE (µg/L)
Tribes (06)	22	21	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 50.00
AK	625	481	144	3.36%	2.70%	5.56%	0.00%	0.00%	0.00%	< 0.00
AL										
AR	407	319	88	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.10
AZ	68	60	8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 1.00
CA	14	11	3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
CO	831	619	212	0.24%	0.00%	0.94%	0.00%	0.00%	0.00%	< 0.00
CT	84	43	41	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
IN	117	107	10	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 2.00
KY	121	50	71	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 2.50
LA	1,310	1,241	69	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
MA	418	344	74	0.24%	0.00%	1.35%	0.24%	0.29%	0.00%	< 0.50
MD	976	920	56	0.20%	0.11%	1.79%	0.00%	0.00%	0.00%	< 0.50
ME	744	676	68	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
MI	2,739	2,647	92	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
MN	1,558	1,528	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
MO	1,412	1,297	115	0.07%	0.08%	0.00%	0.00%	0.00%	0.00%	< 1.00
MS	1	1	0	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.60
NC	1,775	1,585	190	0.51%	0.44%	1.05%	0.00%	0.00%	0.00%	< 0.00
ND	296	258	38	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
NH										
NJ	7	7	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 1.00
NM	720	693	27	0.14%	0.14%	0.00%	0.00%	0.00%	0.00%	< 1.00
OH	2,232	2,050	182	0.04%	0.05%	0.00%	0.04%	0.00%	0.55%	< 0.50
OK	790	541	249	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
OR	17	15	2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
PA										
RI	115	103	12	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 1.00
SC	237	216	21	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
SD	27	19	8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
TN										
TX	4,412	3,825	587	0.07%	0.08%	0.00%	0.05%	0.00%	0.34%	1.00
VT	1	0	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
WA	2,548	2,429	119	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
WI	191	188	3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.30
TOTAL	24,815	22,294	2,521	0.17%	0.13%	0.56%	0.02%	0.00%	0.12%	< 1.00
20 STATES	22,736	20,380	2,356	0.18%	0.13%	0.59%	0.02%	0.00%	0.13%	< 1.00
19 STATES	22,736	20,380	2,356	0.18%	0.13%	0.59%	0.02%	0.00%	0.13%	< 1.00

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Hexachlorobutadiene is 0.9 µg/L. This is a draft value for working review only.

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.5.b SDWIS/FED (Round 2) Data- Hexachlorobutadiene Occurrence in Public Water Systems- Based on Number of Samples

STATE	TOTAL UNIQUE PWS	TOTAL # SAMPLES	# GW SAMPLES	# SW SAMPLES	% TOTAL SAMPLES > MRL	% GW SAMPLES > MRL	% SW SAMPLES > MRL	MIN VALUE (µg/L)	99% VALUE (µg/L)	MAX VALUE (µg/L)	MIN DETECTS (µg/L)	MEDIAN DETECTS (µg/L)
Tribes (06)	22	61	59	2	0.00%	0.00%	0.00%	< 0.50	< 50.00	< 50.00		
AK	625	3,543	2,610	933	0.59%	0.50%	0.86%	< 0.00	< 0.00	0.80	0.10	0.20
AL												
AR	407	1,351	1,077	274	0.00%	0.00%	0.00%	< 0.00	< 0.10	< 0.10		
AZ	68	134	114	20	0.00%	0.00%	0.00%	< 0.40	< 1.00	< 1.00		
CA	14	79	60	19	0.00%	0.00%	0.00%	< 0.20	< 0.50	< 0.50		
CO	831	2,640	1,690	950	0.08%	0.00%	0.21%	< 0.00	< 0.00	0.20	0.10	0.15
CT	84	1,951	858	1,093	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
IN	117	210	194	16	0.00%	0.00%	0.00%	< 0.13	< 2.00	< 2.00		
KY	121	571	203	368	0.00%	0.00%	0.00%	< 0.40	< 2.50	< 2.50		
LA	1,310	4,055	3,451	604	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 0.50		
MA	418	1,819	1,367	452	0.05%	0.00%	0.22%	< 0.00	< 0.50	1.10	1.10	1.10
MD	976	4,857	4,306	551	0.04%	0.02%	0.18%	< 0.10	< 0.50	0.60	0.10	0.35
ME	744	3,546	3,142	404	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
MI	2,739	7,351	6,445	906	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
MN	1,558	6,864	6,678	186	0.00%	0.00%	0.00%	< 0.00	< 0.50	< 1.00		
MO	1,412	3,779	3,283	496	0.03%	0.03%	0.00%	< 0.00	< 1.00	0.30	0.30	0.30
MS	1	1	1	0	100.00%	100.00%	0.00%	0.60	0.60	0.60	0.60	0.60
NC	1,775	3,337	2,877	460	0.33%	0.31%	0.43%	< 0.00	< 0.00	0.50	0.50	0.50
ND	296	382	316	66	0.00%	0.00%	0.00%	< 0.00	< 0.50	< 0.50		
NH												
NJ	7	7	7	0	0.00%	0.00%	0.00%	< 0.47	< 1.00	< 1.00		
NM	720	4,265	4,065	200	0.02%	0.02%	0.00%	< 0.50	< 1.00	0.80	0.80	0.80
OH	2,232	17,788	16,432	1,356	0.01%	0.01%	0.00%	< 0.50	< 0.50	1.06	1.06	1.06
OK	790	4,735	3,491	1,244	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
OR	17	20	18	2	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
PA												
RI	115	424	338	86	0.00%	0.00%	0.00%	< 0.00	< 1.00	< 1.00		
SC	237	425	385	40	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 0.50		
SD	27	35	26	9	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 0.50		
TN												
TX	4,412	16,746	12,111	4,635	0.02%	0.02%	0.00%	< 0.70	1.00	1.50	0.70	1.40
VT	1	1	0	1	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 0.50		
WA	2,548	9,567	8,683	884	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
WI	191	349	345	4	0.00%	0.00%	0.00%	< 0.00	< 0.30	< 0.30		
TOTAL	24,815	100,893	84,632	16,261	0.04%	0.04%	0.09%	< 0.00	< 1.00	1.50	0.10	0.30
20 STATES	22,736	93,585	79,132	14,453	0.05%	0.04%	0.10%	< 0.00	< 1.00	1.50	0.10	0.30
19 STATES	22,736	93,585	79,132	14,453	0.05%	0.04%	0.10%	< 0.00	< 1.00	1.50	0.10	0.30

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.5.c SDWIS/FED (Round 2) Data- Hexachlorobutadiene Occurrence in Public Water Systems- Based on Number of Systems

STATE	TOTAL # SAMPLES	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > 1/2 HRL	% GW PWS > 1/2 HRL	% SW PWS > 1/2 HRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL
Tribes (06)	61	22	21	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK	3,543	625	481	144	3.36%	2.70%	5.56%	0.32%	0.21%	0.69%	0.00%	0.00%	0.00%
AL													
AR	1,351	407	319	88	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AZ	134	68	60	8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CA	79	14	11	3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CO	2,640	831	619	212	0.24%	0.00%	0.94%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CT	1,951	84	43	41	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IN	210	117	107	10	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
KY	571	121	50	71	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
LA	4,055	1,310	1,241	69	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MA	1,819	418	344	74	0.24%	0.00%	1.35%	0.24%	0.00%	1.35%	0.24%	0.29%	0.00%
MD	4,857	976	920	56	0.20%	0.11%	1.79%	0.10%	0.00%	1.79%	0.00%	0.00%	0.00%
ME	3,546	744	676	68	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MI	7,351	2,739	2,647	92	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MN	6,864	1,558	1,528	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MO	3,779	1,412	1,297	115	0.07%	0.08%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MS	1	1	1	0	100.00%	100.00%	0.00%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%
NC	3,337	1,775	1,585	190	0.51%	0.44%	1.05%	0.51%	0.44%	1.05%	0.00%	0.00%	0.00%
ND	382	296	258	38	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NH													
NJ	7	7	7	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NM	4,265	720	693	27	0.14%	0.14%	0.00%	0.14%	0.14%	0.00%	0.00%	0.00%	0.00%
OH	17,788	2,232	2,050	182	0.04%	0.05%	0.00%	0.04%	0.05%	0.00%	0.04%	0.00%	0.55%
OK	4,735	790	541	249	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OR	20	17	15	2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PA													
RI	424	115	103	12	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SC	425	237	216	21	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SD	35	27	19	8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TN													
TX	16,746	4,412	3,825	587	0.07%	0.08%	0.00%	0.07%	0.08%	0.00%	0.05%	0.00%	0.34%
VT	1	1	0	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WA	9,567	2,548	2,429	119	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WI	349	191	188	3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	100,893	24,815	22,294	2,521	0.17%	0.13%	0.56%	0.08%	0.06%	0.20%	0.02%	0.00%	0.12%
20 STATES	93,585	22,736	20,380	2,356	0.18%	0.13%	0.59%	0.08%	0.06%	0.21%	0.02%	0.00%	0.13%
19 STATES	93,585	22,736	20,380	2,356	0.18%	0.13%	0.59%	0.08%	0.06%	0.21%	0.02%	0.00%	0.13%

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Hexachlorobutadiene is 0.9 µg/L. This is a draft value for working review only.

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.6.a SDWIS/FED (Round 2) Data- Naphthalene Occurrence in Public Water Systems

STATE	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL	99% VALUE (µg/L)
Tribes (06)	22	21	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 10.00
AK	625	481	144	4.48%	3.53%	7.64%	0.00%	0.00%	0.00%	< 0.00
AL	2	2		100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	1.40
AR	517	423	94	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
AZ	68	60	8	1.47%	1.67%	0.00%	0.00%	0.00%	0.00%	< 1.00
CA	15	12	3	6.67%	8.33%	0.00%	0.00%	0.00%	0.00%	1.00
CO	831	619	212	3.97%	2.75%	7.55%	0.00%	0.00%	0.00%	0.42
CT	84	43	41	1.19%	2.33%	0.00%	0.00%	0.00%	0.00%	< 0.00
IN	117	107	10	0.85%	0.93%	0.00%	0.00%	0.00%	0.00%	< 2.00
KY	212	103	109	0.47%	0.00%	0.92%	0.00%	0.00%	0.00%	< 2.50
LA	1,310	1,241	69	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
MA	418	344	74	1.20%	0.58%	4.05%	0.00%	0.00%	0.00%	< 0.50
MD	976	920	56	0.51%	0.11%	7.14%	0.00%	0.00%	0.00%	< 0.50
ME	744	676	68	0.54%	0.59%	0.00%	0.00%	0.00%	0.00%	< 0.00
MI	2,737	2,645	92	0.33%	0.34%	0.00%	0.00%	0.00%	0.00%	< 0.00
MN	1,558	1,528	30	0.58%	0.46%	6.67%	0.00%	0.00%	0.00%	< 0.50
MO	1,412	1,297	115	0.07%	0.08%	0.00%	0.00%	0.00%	0.00%	< 2.00
MS										
NC	1,776	1,586	190	1.18%	1.20%	1.05%	0.00%	0.00%	0.00%	< 0.00
ND	296	258	38	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
NH	3	1	2	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	3.40
NJ	7	7		0.00%	0.00%		0.00%	0.00%		< 1.00
NM	714	689	25	0.56%	0.44%	4.00%	0.00%	0.00%	0.00%	< 1.00
OH	2,232	2,050	182	1.39%	1.51%	0.00%	0.00%	0.00%	0.00%	< 0.50
OK	792	541	251	0.76%	0.92%	0.40%	0.00%	0.00%	0.00%	< 0.00
OR	17	15	2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.00
PA										
RI	100	89	11	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 1.00
SC	237	216	21	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
SD	27	19	8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.50
TN										
TX	4,412	3,825	587	0.18%	0.16%	0.34%	0.00%	0.00%	0.00%	< 1.00
VT										
WA	2,554	2,435	119	0.31%	0.21%	2.52%	0.00%	0.00%	0.00%	< 0.00
WI	191	188	3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	< 0.30
TOTAL	25,006	22,441	2,565	0.73%	0.60%	1.87%	0.00%	0.00%	0.00%	< 2.00
20 STATES	22,926	20,525	2,401	0.77%	0.62%	2.00%	0.00%	0.00%	0.00%	< 2.00
19 STATES	22,923	20,524	2,399	0.75%	0.62%	1.92%	0.00%	0.00%	0.00%	< 2.00

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Naphthalene is 140 µg/L. This is a draft value for working review only.

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.6.b SDWIS/FED (Round 2) Data- Naphthalene Occurrence in Public Water Systems- Based on Number of Samples

STATE	TOTAL UNIQUE PWS	TOTAL # SAMPLES	# GW SAMPLES	# SW SAMPLES	% TOTAL SAMPLES > MRL	% GW SAMPLES > MRL	% SW SAMPLES > MRL	MIN VALUE (µg/L)	99% VALUE (µg/L)	MAX VALUE (µg/L)	MIN DETECTS (µg/L)	MEDIAN DETECTS (µg/L)
Tribes (06)	22	61	59	2	0.00%	0.00%	0.00%	< 0.50	< 10.00	< 10.00		
AK	625	3,547	2,611	936	0.99%	0.92%	1.18%	< 0.00	< 0.00	18.00	0.21	1.10
AL	2	4	4	0	100.00%	100.00%	0.00%	0.53	1.40	1.40	0.53	1.00
AR	517	2,430	1,982	448	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.16		
AZ	68	130	110	20	0.77%	0.91%	0.00%	< 0.40	< 1.00	5.00	5.00	5.00
CA	15	80	61	19	1.25%	1.64%	0.00%	< 0.20	1.00	1.00	1.00	1.00
CO	831	2,642	1,690	952	1.82%	1.48%	2.42%	< 0.00	0.42	3.10	0.07	0.44
CT	84	1,930	845	1,085	0.05%	0.12%	0.00%	< 0.00	< 0.00	0.70	0.70	0.70
IN	117	210	194	16	0.48%	0.52%	0.00%	< 0.10	< 2.00	2.00	2.00	2.00
KY	212	766	308	458	0.13%	0.00%	0.22%	< 0.40	< 2.50	0.86	0.86	0.86
LA	1,310	4,055	3,451	604	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 0.50		
MA	418	1,824	1,370	454	0.27%	0.15%	0.66%	< 0.00	< 0.50	1.30	0.51	1.00
MD	976	4,856	4,306	550	0.12%	0.02%	0.91%	< 0.30	< 0.50	0.60	0.30	0.50
ME	744	3,549	3,143	406	0.14%	0.16%	0.00%	< 0.00	< 0.00	3.60	1.47	2.00
MI	2,737	6,993	6,154	839	0.16%	0.18%	0.00%	< 0.00	< 0.00	13.00	1.00	2.00
MN	1,558	6,864	6,678	186	0.20%	0.18%	1.08%	< 0.00	< 0.50	90.00	0.60	0.75
MO	1,412	3,779	3,283	496	0.03%	0.03%	0.00%	< 0.00	< 2.00	0.80	0.80	0.80
MS												
NC	1,776	3,337	2,877	460	0.69%	0.73%	0.43%	< 0.00	< 0.00	1.80	0.50	0.50
ND	296	388	321	67	0.00%	0.00%	0.00%	< 0.00	< 0.50	< 0.50		
NH	3	5	1	4	60.00%	100.00%	50.00%	< 0.00	3.40	3.40	0.50	0.97
NJ	7	7	7	0	0.00%	0.00%	0.00%	< 0.41	< 1.00	< 1.00		
NM	714	4,287	4,086	201	0.12%	0.10%	0.50%	< 0.50	< 1.00	0.80	0.50	0.60
OH	2,232	17,788	16,432	1,356	0.20%	0.22%	0.00%	< 0.50	< 0.50	3.90	0.52	0.91
OK	792	4,747	3,492	1,255	0.13%	0.14%	0.08%	< 0.00	< 0.00	1.02	0.50	0.80
OR	17	20	18	2	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		
PA												
RI	100	270	220	50	0.00%	0.00%	0.00%	< 0.00	< 1.00	< 1.00		
SC	237	425	385	40	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 0.50		
SD	27	35	26	9	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 0.50		
TN												
TX	4,412	16,760	12,122	4,638	0.08%	0.09%	0.04%	< 0.10	< 1.00	80.00	0.10	3.10
VT												
WA	2,554	10,063	9,045	1,018	0.14%	0.11%	0.39%	< 0.00	< 0.00	0.70	0.10	0.10
WI	191	349	345	4	0.00%	0.00%	0.00%	< 0.00	< 0.30	< 0.30		
TOTAL	25,006	102,201	85,626	16,575	0.23%	0.21%	0.34%	< 0.00	< 2.00	90.00	0.07	0.76
20 STATES	22,926	94,915	80,139	14,776	0.24%	0.21%	0.39%	< 0.00	< 2.00	90.00	0.07	0.74
19 STATES	22,923	94,910	80,138	14,772	0.23%	0.21%	0.37%	< 0.00	< 2.00	90.00	0.07	0.73

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)
 The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table B.6.c SDWIS/FED (Round 2) Data- Naphthalene Occurrence in Public Water Systems- Based on Number of Systems

STATE	TOTAL # SAMPLES	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > 1/2 HRL	% GW PWS > 1/2 HRL	% SW PWS > 1/2 HRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL
Tribes (06)	61	22	21	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK	3,547	625	481	144	4.48%	3.53%	7.64%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AL	4	2	2	0	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AR	2,430	517	423	94	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AZ	130	68	60	8	1.47%	1.67%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CA	80	15	12	3	6.67%	8.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CO	2,642	831	619	212	3.97%	2.75%	7.55%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CT	1,930	84	43	41	1.19%	2.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
IN	210	117	107	10	0.85%	0.93%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
KY	766	212	103	109	0.47%	0.00%	0.92%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
LA	4,055	1,310	1,241	69	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MA	1,824	418	344	74	1.20%	0.58%	4.05%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MD	4,856	976	920	56	0.51%	0.11%	7.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
ME	3,549	744	676	68	0.54%	0.59%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MI	6,993	2,737	2,645	92	0.33%	0.34%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MN	6,864	1,558	1,528	30	0.58%	0.46%	6.67%	0.06%	0.07%	0.00%	0.00%	0.00%	0.00%
MO	3,779	1,412	1,297	115	0.07%	0.08%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MS													
NC	3,337	1,776	1,586	190	1.18%	1.20%	1.05%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
ND	388	296	258	38	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NH	5	3	1	2	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NJ	7	7	7	0	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NM	4,287	714	689	25	0.56%	0.44%	4.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OH	17,788	2,232	2,050	182	1.39%	1.51%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OK	4,747	792	541	251	0.76%	0.92%	0.40%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OR	20	17	15	2	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
PA													
RI	270	100	89	11	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SC	425	237	216	21	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SD	35	27	19	8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TN													
TX	16,760	4,412	3,825	587	0.18%	0.16%	0.34%	0.02%	0.03%	0.00%	0.00%	0.00%	0.00%
VT													
WA	10,063	2,554	2,435	119	0.31%	0.21%	2.52%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WI	349	191	188	3	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	102,201	25,006	22,441	2,565	0.73%	0.60%	1.87%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%
20 STATES	94,915	22,926	20,525	2,401	0.77%	0.62%	2.00%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%
19 STATES	94,910	22,923	20,524	2,399	0.75%	0.62%	1.92%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Naphthalene is 140 µg/L. This is a draft value for working review only.

The highlighted States are part of the SDWIS/FED 20 State Cross-Section.

Appendix C. NIRS Data Summary for 2 CCL Contaminants

Table C.1.a	NIRS Data - Manganese Occurrence in Public Water Systems (HRL = 0.3 mg/L)
Table C.1.b	NIRS Data - Manganese Occurrence in Public Water Systems (HRL = 0.05 mg/L)
Table C.2.a	NIRS Data - Sodium Occurrence in Public Water Systems (HRL = 30 mg/L)
Table C.2.b	NIRS Data - Sodium Occurrence in Public Water Systems (HRL = 120 mg/L)

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table C.1.a. NIRS Data - Manganese Occurrence in Public Water Systems (HRL = 0.3 mg/L)

State	# Samples	# Samples > MRL	% Samples > MRL	# Detects > 1/2 HRL	% Detects > 1/2 HRL	# Detects > HRL	% Detects > HRL	Min Value (mg/L)	99% Value (mg/L)	Max Value (mg/L)	Min Detects (mg/L)	Median Detects (mg/L)
AK	8	7	87.50%	2	25.00%	1	12.50%	< 0.00	0.50	0.50	0.02	0.05
AL	8	4	50.00%	0	0.00%	0	0.00%	< 0.00	0.05	0.05	0.00	0.01
AR	9	6	66.67%	0	0.00%	0	0.00%	< 0.00	0.06	0.06	0.00	0.01
AZ	14	5	35.71%	1	7.14%	1	7.14%	< 0.00	0.58	0.58	0.00	0.00
CA	60	26	43.33%	2	3.33%	1	1.67%	< 0.00	0.65	0.65	0.00	0.01
CO	10	7	70.00%	0	0.00%	0	0.00%	< 0.00	0.13	0.13	0.00	0.00
CT	23	18	78.26%	0	0.00%	0	0.00%	< 0.00	0.09	0.09	0.00	0.01
DE	10	10	100.00%	0	0.00%	0	0.00%	0.00	0.08	0.08	0.00	0.01
FL	56	29	51.79%	0	0.00%	0	0.00%	< 0.00	0.03	0.03	0.00	0.00
GA	23	9	39.13%	0	0.00%	0	0.00%	< 0.00	0.05	0.05	0.00	0.02
IA	28	22	78.57%	5	17.86%	4	14.29%	< 0.00	1.34	1.34	0.00	0.01
ID	12	1	8.33%	0	0.00%	0	0.00%	< 0.00	0.13	0.13	0.13	0.13
IL	46	34	73.91%	1	2.17%	1	2.17%	< 0.00	0.36	0.36	0.00	0.01
IN	19	18	94.74%	2	10.53%	1	5.26%	< 0.00	0.33	0.33	0.01	0.03
KS	6	3	50.00%	1	16.67%	1	16.67%	< 0.00	0.83	0.83	0.01	0.07
KY	8	6	75.00%	2	25.00%	1	12.50%	< 0.00	0.50	0.50	0.00	0.02
LA	26	24	92.31%	3	11.54%	0	0.00%	< 0.00	0.25	0.25	0.00	0.01
MA	7	6	85.71%	1	14.29%	0	0.00%	< 0.00	0.19	0.19	0.00	0.00
MD	6	5	83.33%	0	0.00%	0	0.00%	< 0.00	0.05	0.05	0.00	0.02
ME	7	6	85.71%	0	0.00%	0	0.00%	< 0.00	0.04	0.04	0.00	0.01
MI	25	22	88.00%	2	8.00%	0	0.00%	< 0.00	0.20	0.20	0.00	0.02
MN	19	17	89.47%	6	31.58%	4	21.05%	< 0.00	0.63	0.63	0.01	0.09
MO	21	16	76.19%	3	14.29%	1	4.76%	< 0.00	1.22	1.22	0.00	0.00
MS	26	21	80.77%	0	0.00%	0	0.00%	< 0.00	0.09	0.09	0.00	0.01
MT	11	5	45.45%	1	9.09%	1	9.09%	< 0.00	0.33	0.33	0.00	0.07
NC	44	33	75.00%	0	0.00%	0	0.00%	< 0.00	0.09	0.09	0.00	0.01
ND	19	19	100.00%	3	15.79%	2	10.53%	0.00	0.63	0.63	0.00	0.01
NE	19	10	52.63%	3	15.79%	2	10.53%	< 0.00	1.24	1.24	0.00	0.05
NH	10	8	80.00%	0	0.00%	0	0.00%	< 0.00	0.11	0.11	0.01	0.05
NJ	6	2	33.33%	0	0.00%	0	0.00%	< 0.00	0.09	0.09	0.01	0.05
NM	7	5	71.43%	1	14.29%	1	14.29%	< 0.00	0.38	0.38	0.00	0.02
NV	2	1	50.00%	0	0.00%	0	0.00%	< 0.00	0.00	0.00	0.00	0.00
NY	57	32	56.14%	4	7.02%	2	3.51%	< 0.00	0.40	0.40	0.00	0.03
OH	25	19	76.00%	0	0.00%	0	0.00%	< 0.00	0.13	0.13	0.00	0.02
OK	12	6	50.00%	0	0.00%	0	0.00%	< 0.00	0.08	0.08	0.00	0.00
OR	8	5	62.50%	1	12.50%	0	0.00%	< 0.00	0.17	0.17	0.00	0.01
PA	36	28	77.78%	7	19.44%	4	11.11%	< 0.00	0.86	0.86	0.00	0.02
PR	1	1	100.00%	0	0.00%	0	0.00%	0.01	0.01	0.01	0.01	0.01
RI	1	1	100.00%	0	0.00%	0	0.00%	0.03	0.03	0.03	0.03	0.03
SC	18	11	61.11%	0	0.00%	0	0.00%	< 0.00	0.07	0.07	0.00	0.01
SD	8	7	87.50%	2	25.00%	1	12.50%	< 0.00	0.72	0.72	0.00	0.06
TN	9	8	88.89%	0	0.00%	0	0.00%	< 0.00	0.08	0.08	0.00	0.00
TX	74	51	68.92%	0	0.00%	0	0.00%	< 0.00	0.13	0.13	0.00	0.02
UT	10	4	40.00%	0	0.00%	0	0.00%	< 0.00	0.02	0.02	0.00	0.00
VA	30	25	83.33%	0	0.00%	0	0.00%	< 0.00	0.13	0.13	0.00	0.01
VT	12	8	66.67%	2	16.67%	2	16.67%	< 0.00	0.33	0.33	0.00	0.00
WA	52	31	59.62%	3	5.77%	0	0.00%	< 0.00	0.18	0.18	0.00	0.01
WI	30	24	80.00%	1	3.33%	0	0.00%	< 0.00	0.18	0.18	0.00	0.02
WV	8	3	37.50%	1	12.50%	1	12.50%	< 0.00	0.76	0.76	0.00	0.10
WY	3	3	100.00%	0	0.00%	0	0.00%	0.02	0.09	0.09	0.02	0.02
Total	989	672	67.95%	60	6.07%	32	3.24%	< 0.00	0.63	1.34	0.00	0.01

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Manganese is 0.3 mg/L. This is a draft value for working review only.

Manganese data were analyzed using two different HRLs and are, therefore, listed separately.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table C.1.b NIRS Data - Manganese Occurrence in Public Water Systems (HRL = 0.05 mg/L)

State	# Samples	# Samples > MRL	% Samples > MRL	# Detects > 1/2 HRL	% Detects > 1/2 HRL	# Detects > HRL	% Detects > HRL	Min Value (mg/L)	99% Value (mg/L)	Max Value (mg/L)	Min Detects (mg/L)	Median Detects (mg/L)
AK	8	7	87.50%	6	75.00%	4	50.00%	< 0.00	0.50	0.50	0.02	0.05
AL	8	4	50.00%	1	12.50%	0	0.00%	< 0.00	0.05	0.05	0.00	0.01
AR	9	6	66.67%	1	11.11%	1	11.11%	< 0.00	0.06	0.06	0.00	0.01
AZ	14	5	35.71%	1	7.14%	1	7.14%	< 0.00	0.58	0.58	0.00	0.00
CA	60	26	43.33%	8	13.33%	6	10.00%	< 0.00	0.65	0.65	0.00	0.01
CO	10	7	70.00%	1	10.00%	1	10.00%	< 0.00	0.13	0.13	0.00	0.00
CT	23	18	78.26%	6	26.09%	1	4.35%	< 0.00	0.09	0.09	0.00	0.01
DE	10	10	100.00%	3	30.00%	2	20.00%	0.00	0.08	0.08	0.00	0.01
FL	56	29	51.79%	1	1.79%	0	0.00%	< 0.00	0.03	0.03	0.00	0.00
GA	23	9	39.13%	3	13.04%	1	4.35%	< 0.00	0.05	0.05	0.00	0.02
IA	28	22	78.57%	7	25.00%	5	17.86%	< 0.00	1.34	1.34	0.00	0.01
ID	12	1	8.33%	1	8.33%	1	8.33%	< 0.00	0.13	0.13	0.13	0.13
IL	46	34	73.91%	5	10.87%	2	4.35%	< 0.00	0.36	0.36	0.00	0.01
IN	19	18	94.74%	11	57.89%	7	36.84%	< 0.00	0.33	0.33	0.01	0.03
KS	6	3	50.00%	2	33.33%	2	33.33%	< 0.00	0.83	0.83	0.01	0.07
KY	8	6	75.00%	3	37.50%	2	25.00%	< 0.00	0.50	0.50	0.00	0.02
LA	26	24	92.31%	11	42.31%	9	34.62%	< 0.00	0.25	0.25	0.00	0.01
MA	7	6	85.71%	1	14.29%	1	14.29%	< 0.00	0.19	0.19	0.00	0.00
MD	6	5	83.33%	2	33.33%	0	0.00%	< 0.00	0.05	0.05	0.00	0.02
ME	7	6	85.71%	1	14.29%	0	0.00%	< 0.00	0.04	0.04	0.00	0.01
MI	25	22	88.00%	9	36.00%	6	24.00%	< 0.00	0.20	0.20	0.00	0.02
MN	19	17	89.47%	15	78.95%	11	57.89%	< 0.00	0.63	0.63	0.01	0.09
MO	21	16	76.19%	4	19.05%	3	14.29%	< 0.00	1.22	1.22	0.00	0.00
MS	26	21	80.77%	5	19.23%	2	7.69%	< 0.00	0.09	0.09	0.00	0.01
MT	11	5	45.45%	3	27.27%	3	27.27%	< 0.00	0.33	0.33	0.00	0.07
NC	44	33	75.00%	7	15.91%	3	6.82%	< 0.00	0.09	0.09	0.00	0.01
ND	19	19	100.00%	8	42.11%	5	26.32%	0.00	0.63	0.63	0.00	0.01
NE	19	10	52.63%	5	26.32%	5	26.32%	< 0.00	1.24	1.24	0.00	0.05
NH	10	8	80.00%	5	50.00%	5	50.00%	< 0.00	0.11	0.11	0.01	0.05
NJ	6	2	33.33%	1	16.67%	1	16.67%	< 0.00	0.09	0.09	0.01	0.05
NM	7	5	71.43%	2	28.57%	1	14.29%	< 0.00	0.38	0.38	0.00	0.02
NV	2	1	50.00%	0	0.00%	0	0.00%	< 0.00	0.00	0.00	0.00	0.00
NY	57	32	56.14%	17	29.82%	12	21.05%	< 0.00	0.40	0.40	0.00	0.03
OH	25	19	76.00%	8	32.00%	5	20.00%	< 0.00	0.13	0.13	0.00	0.02
OK	12	6	50.00%	1	8.33%	1	8.33%	< 0.00	0.08	0.08	0.00	0.00
OR	8	5	62.50%	2	25.00%	2	25.00%	< 0.00	0.17	0.17	0.00	0.01
PA	36	28	77.78%	14	38.89%	13	36.11%	< 0.00	0.86	0.86	0.00	0.02
PR	1	1	100.00%	0	0.00%	0	0.00%	0.01	0.01	0.01	0.01	0.01
RI	1	1	100.00%	1	100.00%	0	0.00%	0.03	0.03	0.03	0.03	0.03
SC	18	11	61.11%	3	16.67%	1	5.56%	< 0.00	0.07	0.07	0.00	0.01
SD	8	7	87.50%	5	62.50%	4	50.00%	< 0.00	0.72	0.72	0.00	0.06
TN	9	8	88.89%	1	11.11%	1	11.11%	< 0.00	0.08	0.08	0.00	0.00
TX	74	51	68.92%	17	22.97%	7	9.46%	< 0.00	0.13	0.13	0.00	0.02
UT	10	4	40.00%	0	0.00%	0	0.00%	< 0.00	0.02	0.02	0.00	0.00
VA	30	25	83.33%	3	10.00%	3	10.00%	< 0.00	0.13	0.13	0.00	0.01
VT	12	8	66.67%	2	16.67%	2	16.67%	< 0.00	0.33	0.33	0.00	0.00
WA	52	31	59.62%	9	17.31%	6	11.54%	< 0.00	0.18	0.18	0.00	0.01
WI	30	24	80.00%	9	30.00%	7	23.33%	< 0.00	0.18	0.18	0.00	0.02
WV	8	3	37.50%	2	25.00%	2	25.00%	< 0.00	0.76	0.76	0.00	0.10
WY	3	3	100.00%	1	33.33%	1	33.33%	0.02	0.09	0.09	0.02	0.02
Total	989	672	67.95%	234	23.66%	158	15.98%	< 0.00	0.63	1.34	0.00	0.01

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)

The Health Reference Level (HRL) is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.

"% > HRL" indicates the proportion of systems with any analytical results exceeding the concentration value of the HRL.

The Health Reference Level (HRL) used for Manganese is 0.05 mg/L. This is a draft value for working review only.

Manganese data were analyzed using two different HRLs and are, therefore, listed separately.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table C.2.a. NIRS Data - Sodium Occurrence in Public Water Systems (Benchmark Level = 30 mg/L)

State	# Samples	# Samples > MRL	% Samples > MRL	# Detects > 1/2 Benchmark Level	% Detects > 1/2 Benchmark Level	# Detects > Benchmark Level	% Detects > Benchmark Level	Min Value (mg/L)	99% Value (mg/L)	Max Value (mg/L)	Min Detects (mg/L)	Median Detects (mg/L)
AK	8	8	100.00%	1	12.50%	1	12.50%	2.96	82.80	82.80	2.96	6.04
AL	8	8	100.00%	2	25.00%	1	12.50%	1.43	150.86	150.86	1.43	3.65
AR	9	9	100.00%	6	66.67%	6	66.67%	9.70	249.51	249.51	9.70	39.50
AZ	14	14	100.00%	10	71.43%	10	71.43%	12.43	284.28	284.28	12.43	46.56
CA	60	60	100.00%	48	80.00%	34	56.67%	2.96	292.14	292.14	2.96	34.01
CO	10	10	100.00%	5	50.00%	4	40.00%	2.76	224.10	224.10	2.76	16.92
CT	23	23	100.00%	5	21.74%	0	0.00%	4.81	22.60	22.60	4.81	8.88
DE	10	10	100.00%	4	40.00%	3	30.00%	4.68	109.10	109.10	4.68	12.92
FL	56	56	100.00%	16	28.57%	8	14.29%	1.17	90.43	90.43	1.17	8.84
GA	23	23	100.00%	4	17.39%	0	0.00%	1.51	26.90	26.90	1.51	10.08
IA	28	28	100.00%	13	46.43%	11	39.29%	4.38	174.20	174.20	4.38	13.89
ID	12	12	100.00%	5	41.67%	2	16.67%	3.61	90.19	90.19	3.61	13.47
IL	46	46	100.00%	36	78.26%	26	56.52%	3.00	516.83	516.83	3.00	40.78
IN	19	19	100.00%	12	63.16%	5	26.32%	4.49	194.60	194.60	4.49	18.80
KS	6	6	100.00%	4	66.67%	4	66.67%	7.27	185.00	185.00	7.27	45.75
KY	8	8	100.00%	6	75.00%	6	75.00%	3.59	137.80	137.80	3.59	47.01
LA	26	26	100.00%	23	88.46%	21	80.77%	2.40	495.03	495.03	2.40	75.30
MA	7	7	100.00%	1	14.29%	1	14.29%	3.22	52.60	52.60	3.22	8.49
MD	6	6	100.00%	4	66.67%	3	50.00%	5.80	121.90	121.90	5.80	33.74
ME	7	7	100.00%	3	42.86%	3	42.86%	2.11	55.59	55.59	2.11	6.90
MI	25	25	100.00%	11	44.00%	9	36.00%	2.67	462.13	462.13	2.67	12.54
MN	19	19	100.00%	10	52.63%	8	42.11%	3.30	270.67	270.67	3.30	20.05
MO	21	21	100.00%	9	42.86%	5	23.81%	1.56	178.70	178.70	1.56	8.98
MS	26	26	100.00%	16	61.54%	15	57.69%	1.99	187.45	187.45	1.99	41.03
MT	11	11	100.00%	8	72.73%	6	54.55%	2.76	808.78	808.78	2.76	39.28
NC	44	44	100.00%	15	34.09%	8	18.18%	1.95	259.57	259.57	1.95	9.51
ND	19	19	100.00%	18	94.74%	18	94.74%	2.38	906.00	906.00	2.38	280.21
NE	19	19	100.00%	11	57.89%	5	26.32%	4.10	133.10	133.10	4.10	22.10
NH	10	10	100.00%	3	30.00%	0	0.00%	3.41	25.44	25.44	3.41	11.83
NJ	6	6	100.00%	1	16.67%	1	16.67%	1.66	51.85	51.85	1.66	5.63
NM	7	7	100.00%	6	85.71%	5	71.43%	10.41	174.73	174.73	10.41	58.95
NV	2	2	100.00%	2	100.00%	1	50.00%	28.54	81.25	81.25	28.54	54.89
NY	57	57	100.00%	32	56.14%	14	24.56%	1.82	1541.00	1541.00	1.82	16.63
OH	25	25	100.00%	15	60.00%	9	36.00%	3.34	494.60	494.60	3.34	18.64
OK	12	12	100.00%	8	66.67%	8	66.67%	9.16	181.20	181.20	9.16	38.76
OR	8	8	100.00%	6	75.00%	2	25.00%	7.41	78.30	78.30	7.41	19.30
PA	36	36	100.00%	22	61.11%	13	36.11%	1.79	188.40	188.40	1.79	19.87
PR	1	1	100.00%	1	100.00%	0	0.00%	27.34	27.34	27.34	27.34	27.34
RI	1	1	100.00%	1	100.00%	1	100.00%	68.19	68.19	68.19	68.19	68.19
SC	18	18	100.00%	4	22.22%	2	11.11%	3.29	263.17	263.17	3.29	10.66
SD	8	8	100.00%	7	87.50%	5	62.50%	11.80	763.30	763.30	11.80	63.73
TN	9	9	100.00%	1	11.11%	0	0.00%	2.82	17.18	17.18	2.82	4.83
TX	74	74	100.00%	64	86.49%	58	78.38%	4.56	645.89	645.89	4.56	96.05
UT	10	10	100.00%	4	40.00%	2	20.00%	3.75	134.62	134.62	3.75	10.58
VA	30	30	100.00%	9	30.00%	6	20.00%	1.23	355.52	355.52	1.23	7.34
VT	12	12	100.00%	4	33.33%	2	16.67%	0.91	143.11	143.11	0.91	4.98
WA	52	52	100.00%	13	25.00%	7	13.46%	2.58	282.00	282.00	2.58	7.78
WI	30	30	100.00%	6	20.00%	3	10.00%	1.18	445.07	445.07	1.18	4.94
WV	8	8	100.00%	3	37.50%	2	25.00%	1.35	249.22	249.22	1.35	10.30
WY	3	3	100.00%	1	33.33%	1	33.33%	7.07	340.39	340.39	7.07	13.99
Total	989	989	100.00%	519	52.48%	365	36.91%	0.91	516.83	1541.00	0.91	16.35

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)
 The Benchmark Level is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.
 "% > Benchmark Level" indicates the proportion of systems with any analytical results exceeding the concentration value of the Benchmark Level.
 The Benchmark Level used for Sodium is 30 mg/L. This is a draft value for working review only.
 Sodium data were analyzed using two different Benchmark Levels and are, therefore, listed separately.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table C.2.b. NIRS Data - Sodium Occurrence in Public Water Systems (Benchmark Level = 120 mg/L)

State	# Samples	# Samples > MRL	% Samples > MRL	# Detects > 1/2 Benchmark Level	% Detects > 1/2 Benchmark Level	# Detects > Benchmark Level	% Detects > Benchmark Level	Min Value (mg/L)	99% Value (mg/L)	Max Value (mg/L)	Min Detects (mg/L)	Median Detects (mg/L)
AK	8	8	100.00%	1	12.50%	0	0.00%	2.96	82.80	82.80	2.96	6.04
AL	8	8	100.00%	1	12.50%	1	12.50%	1.43	150.86	150.86	1.43	3.65
AR	9	9	100.00%	4	44.44%	3	33.33%	9.70	249.51	249.51	9.70	39.50
AZ	14	14	100.00%	5	35.71%	2	14.29%	12.43	284.28	284.28	12.43	46.56
CA	60	60	100.00%	12	20.00%	4	6.67%	2.96	292.14	292.14	2.96	34.01
CO	10	10	100.00%	2	20.00%	1	10.00%	2.76	224.10	224.10	2.76	16.92
CT	23	23	100.00%	0	0.00%	0	0.00%	4.81	22.60	22.60	4.81	8.88
DE	10	10	100.00%	2	20.00%	0	0.00%	4.68	109.10	109.10	4.68	12.92
FL	56	56	100.00%	2	3.57%	0	0.00%	1.17	90.43	90.43	1.17	8.84
GA	23	23	100.00%	0	0.00%	0	0.00%	1.51	26.90	26.90	1.51	10.08
IA	28	28	100.00%	8	28.57%	4	14.29%	4.38	174.20	174.20	4.38	13.89
ID	12	12	100.00%	1	8.33%	0	0.00%	3.61	90.19	90.19	3.61	13.47
IL	46	46	100.00%	18	39.13%	10	21.74%	3.00	516.83	516.83	3.00	40.78
IN	19	19	100.00%	1	5.26%	1	5.26%	4.49	194.60	194.60	4.49	18.80
KS	6	6	100.00%	2	33.33%	2	33.33%	7.27	185.00	185.00	7.27	45.75
KY	8	8	100.00%	2	25.00%	2	25.00%	3.59	137.80	137.80	3.59	47.01
LA	26	26	100.00%	18	69.23%	8	30.77%	2.40	495.03	495.03	2.40	75.30
MA	7	7	100.00%	0	0.00%	0	0.00%	3.22	52.60	52.60	3.22	8.49
MD	6	6	100.00%	1	16.67%	1	16.67%	5.80	121.90	121.90	5.80	33.74
ME	7	7	100.00%	0	0.00%	0	0.00%	2.11	55.59	55.59	2.11	6.90
MI	25	25	100.00%	9	36.00%	1	4.00%	2.67	462.13	462.13	2.67	12.54
MN	19	19	100.00%	6	31.58%	3	15.79%	3.30	270.67	270.67	3.30	20.05
MO	21	21	100.00%	3	14.29%	2	9.52%	1.56	178.70	178.70	1.56	8.98
MS	26	26	100.00%	9	34.62%	4	15.38%	1.99	187.45	187.45	1.99	41.03
MT	11	11	100.00%	4	36.36%	4	36.36%	2.76	808.78	808.78	2.76	39.28
NC	44	44	100.00%	3	6.82%	1	2.27%	1.95	259.57	259.57	1.95	9.51
ND	19	19	100.00%	15	78.95%	14	73.68%	2.38	906.00	906.00	2.38	280.21
NE	19	19	100.00%	2	10.53%	1	5.26%	4.10	133.10	133.10	4.10	22.10
NH	10	10	100.00%	0	0.00%	0	0.00%	3.41	25.44	25.44	3.41	11.83
NJ	6	6	100.00%	0	0.00%	0	0.00%	1.66	51.85	51.85	1.66	5.63
NM	7	7	100.00%	3	42.86%	1	14.29%	10.41	174.73	174.73	10.41	58.95
NV	2	2	100.00%	1	50.00%	0	0.00%	28.54	81.25	81.25	28.54	54.89
NY	57	57	100.00%	5	8.77%	2	3.51%	1.82	1541.00	1541.00	1.82	16.63
OH	25	25	100.00%	6	24.00%	4	16.00%	3.34	494.60	494.60	3.34	18.64
OK	12	12	100.00%	3	25.00%	2	16.67%	9.16	181.20	181.20	9.16	38.76
OR	8	8	100.00%	1	12.50%	0	0.00%	7.41	78.30	78.30	7.41	19.30
PA	36	36	100.00%	6	16.67%	5	13.89%	1.79	188.40	188.40	1.79	19.87
PR	1	1	100.00%	0	0.00%	0	0.00%	27.34	27.34	27.34	27.34	27.34
RI	1	1	100.00%	1	100.00%	0	0.00%	68.19	68.19	68.19	68.19	68.19
SC	18	18	100.00%	1	5.56%	1	5.56%	3.29	263.17	263.17	3.29	10.66
SD	8	8	100.00%	4	50.00%	3	37.50%	11.80	763.30	763.30	11.80	63.73
TN	9	9	100.00%	0	0.00%	0	0.00%	2.82	17.18	17.18	2.82	4.83
TX	74	74	100.00%	46	62.16%	33	44.59%	4.56	645.89	645.89	4.56	96.05
UT	10	10	100.00%	1	10.00%	1	10.00%	3.75	134.62	134.62	3.75	10.58
VA	30	30	100.00%	6	20.00%	3	10.00%	1.23	355.52	355.52	1.23	7.34
VT	12	12	100.00%	1	8.33%	1	8.33%	0.91	143.11	143.11	0.91	4.98
WA	52	52	100.00%	3	5.77%	2	3.85%	2.58	282.00	282.00	2.58	7.78
WI	30	30	100.00%	3	10.00%	2	6.67%	1.18	445.07	445.07	1.18	4.94
WV	8	8	100.00%	1	12.50%	1	12.50%	1.35	249.22	249.22	1.35	10.30
WY	3	3	100.00%	1	33.33%	1	33.33%	7.07	340.39	340.39	7.07	13.99
Total	989	989	100.00%	224	22.65%	131	13.25%	0.91	516.83	1541.00	0.91	16.35

PWS= Public Water Systems; GW= Ground Water (PWS Source Water Type); SW= Surface Water (PWS Source Water Type); MRL= Minimum Reporting Limit (for laboratory analyses)
 The Benchmark Level is the estimated health effect level as provided by EPA for preliminary assessment for this work assignment.
 "% > Benchmark Level" indicates the proportion of systems with any analytical results exceeding the concentration value of the Benchmark Level.
 The Benchmark Level used for Sodium is 120 mg/L. This is a draft value for working review only.
 Sodium data were analyzed using two different Benchmark Levels and are, therefore, listed separately.

**Appendix D. Comparison of URCIS (Round 1) Data to SDWIS/FED
(Round 2) Data for Select States and Select Contaminants**

Table D.1.a URCIS (Round 1) and SDWIS/FED (Round 2) Data - Hexachlorobutadiene
Occurrence in Public Water Systems - Based on Number of Samples

Table D.1.b URCIS (Round 1) and SDWIS/FED (Round 2) Data - Hexachlorobutadiene
Occurrence in Public Water Systems - Based on Number of Systems

Table D.2.a URCIS (Round 1) and SDWIS/FED (Round 2) Data - Naphthalene Occurrence
in Public Water Systems - Based on Number of Samples

Table D.2.b URCIS (Round 1) and SDWIS/FED (Round 2) Data - Naphthalene Occurrence
in Public Water Systems - Based on Number of Systems

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table D.1.a URCIS (Round 1) and SDWIS/FED (Round 2) Data- Hexachlorobutadiene Occurrence in Public Water Systems - Based on Number of Samples

STATE	TOTAL # SAMPLES	# GW SAMPLES	# SW SAMPLES	% TOTAL SAMPLES > MRL	% GW SAMPLES > MRL	% SW SAMPLES > MRL	MIN VALUE (µg/L)	99% VALUE (µg/L)	MAX VALUE (µg/L)	MIN DETECTS (µg/L)	MEDIAN DETECTS (µg/L)
AK - URCIS (Round 1)	1,745	1,480	265	0.63%	0.61%	0.75%	< 0.00	< 0.00	0.30	0.20	0.20
AK - SDWIS/FED (Round 2)	3,543	2,610	933	0.59%	0.50%	0.86%	< 0.00	< 0.00	0.80	0.10	0.20
KY - URCIS (Round 1)	2,076	1,119	957	0.00%	0.00%	0.00%	< 0.50	< 1.00	< 1.00		
KY - SDWIS/FED (Round 2)	571	203	368	0.00%	0.00%	0.00%	< 0.40	< 2.50	< 2.50		
MD - URCIS (Round 1)	1,750	1,376	374	0.06%	0.07%	0.00%	< 0.10	< 0.50	0.10	0.10	0.10
MD - SDWIS/FED (Round 2)	4,857	4,306	551	0.04%	0.02%	0.18%	< 0.10	< 0.50	0.60	0.10	0.35
MN - URCIS (Round 1)	2,654	2,586	68	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 5.00		
MN - SDWIS/FED (Round 2)	6,864	6,678	186	0.00%	0.00%	0.00%	< 0.00	< 0.50	< 1.00		
NC - URCIS (Round 1)	644	569	75	0.00%	0.00%	0.00%	< 0.50	< 0.50	< 0.50		
NC - SDWIS/FED (Round 2)	3,337	2,877	460	0.33%	0.31%	0.43%	< 0.00	< 0.00	0.50	0.50	0.50
NM - URCIS (Round 1)	1,595	1,475	120	0.00%	0.00%	0.00%	< 0.00	< 1.00	< 5.00		
NM - SDWIS/FED (Round 2)	4,265	4,065	200	0.02%	0.02%	0.00%	< 0.50	< 1.00	0.80	0.80	0.80
OH - URCIS (Round 1)	15,951	15,038	913	0.02%	0.02%	0.00%	< 0.20	2.00	2.00	0.50	2.00
OH - SDWIS/FED (Round 2)	17,788	16,432	1,356	0.01%	0.01%	0.00%	< 0.50	< 0.50	1.06	1.06	1.06
WA - URCIS (Round 1)	3,987	3,656	331	0.03%	0.03%	0.00%	< 0.50	0.50	0.60	0.60	0.60
WA - SDWIS/FED (Round 2)	9,567	8,683	884	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.00		

Table D.1.b URCIS (Round 1) and SDWIS/FED (Round 2) Data- Hexachlorobutadiene Occurrence in Public Water Systems - Based on Number of Systems

STATE	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > 1/2 HRL	% GW PWS > 1/2 HRL	% SW PWS > 1/2 HRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL
AK - URCIS (Round 1)	670	540	130	1.49%	1.48%	1.54%	0.30%	0.19%	0.77%	0.00%	0.00%	0.00%
AK - SDWIS/FED (Round 2)	625	481	144	3.36%	2.70%	5.56%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
KY - URCIS (Round 1)	524	291	233	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
KY - SDWIS/FED (Round 2)	121	50	71	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MD - URCIS (Round 1)	986	936	50	0.10%	0.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MD - SDWIS/FED (Round 2)	976	920	56	0.20%	0.11%	1.79%	0.10%	0.00%	1.79%	0.00%	0.00%	0.00%
MN - URCIS (Round 1)	1,557	1,529	28	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MN - SDWIS/FED (Round 2)	1,558	1,528	30	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NC - URCIS (Round 1)	298	254	44	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NC - SDWIS/FED (Round 2)	1,775	1,585	190	0.51%	0.44%	1.05%	0.51%	0.44%	1.05%	0.00%	0.00%	0.00%
NM - URCIS (Round 1)	590	555	35	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NM - SDWIS/FED (Round 2)	720	693	27	0.14%	0.14%	0.00%	0.14%	0.14%	0.00%	0.00%	0.00%	0.00%
OH - URCIS (Round 1)	2,659	2,493	166	0.11%	0.12%	0.00%	0.11%	0.12%	0.00%	0.08%	0.08%	0.00%
OH - SDWIS/FED (Round 2)	2,232	2,050	182	0.04%	0.05%	0.00%	0.04%	0.05%	0.00%	0.04%	0.05%	0.00%
WA - URCIS (Round 1)	1,014	937	77	0.10%	0.11%	0.00%	0.10%	0.11%	0.00%	0.00%	0.00%	0.00%
WA - SDWIS/FED (Round 2)	2,548	2,429	119	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

The Health Reference Level (HRL) used for Hexachlorobutadiene is 0.9 (µg/L). This is a draft value for working review only.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table D.2.a URCIS (Round 1) and SDWIS/FED (Round 2) Data- Naphthalene Occurrence in Public Water Systems - Based on Number of Samples

STATE	TOTAL # SAMPLES	# GW SAMPLES	# SW SAMPLES	% TOTAL SAMPLES > MRL	% GW SAMPLES > MRL	% SW SAMPLES > MRL	MIN VALUE (µg/L)	99% VALUE (µg/L)	MAX VALUE (µg/L)	MIN DETECTS (µg/L)	MEDIAN DETECTS (µg/L)
AK - URCIS (Round 1)	1,763	1,494	269	2.10%	2.34%	0.74%	< 0.00	0.80	13.10	0.28	0.80
AK - SDWIS/FED (Round 2)	3,547	2,611	936	0.99%	0.92%	1.18%	< 0.00	< 0.00	18.00	0.21	1.10
KY - URCIS (Round 1)	2,076	1,119	957	0.48%	0.27%	0.73%	< 0.50	< 1.00	17.00	1.00	2.00
KY - SDWIS/FED (Round 2)	766	308	458	0.13%	0.00%	0.22%	< 0.40	< 2.50	0.86	0.86	0.86
MD - URCIS (Round 1)	1,749	1,375	374	0.29%	0.36%	0.00%	< 0.20	< 0.50	7.00	0.60	1.40
MD - SDWIS/FED (Round 2)	4,856	4,306	550	0.12%	0.02%	0.91%	< 0.30	< 0.50	0.60	0.30	0.50
MN - URCIS (Round 1)	2,656	2,588	68	0.04%	0.04%	0.00%	< 0.50	< 0.50	1.70	1.70	1.70
MN - SDWIS/FED (Round 2)	6,864	6,678	186	0.20%	0.18%	1.08%	< 0.00	< 0.50	90.00	0.60	0.75
NC - URCIS (Round 1)	644	569	75	0.16%	0.18%	0.00%	< 0.50	< 0.50	2.25	2.25	2.25
NC - SDWIS/FED (Round 2)	3,337	2,877	460	0.69%	0.73%	0.43%	< 0.00	< 0.00	1.80	0.50	0.50
NM - URCIS (Round 1)	1,595	1,475	120	0.00%	0.00%	0.00%	< 0.00	< 1.00	< 5.00		
NM - SDWIS/FED (Round 2)	4,287	4,086	201	0.12%	0.10%	0.50%	< 0.50	< 1.00	0.80	0.50	0.60
OH - URCIS (Round 1)	15,944	15,030	914	0.12%	0.12%	0.11%	< 0.00	< 2.00	19.00	0.50	1.00
OH - SDWIS/FED (Round 2)	17,788	16,432	1,356	0.20%	0.22%	0.00%	< 0.50	< 0.50	3.90	0.52	0.91
WA - URCIS (Round 1)	3,987	3,656	331	0.13%	0.14%	0.00%	< 0.50	< 0.50	3.10	1.50	1.60
WA - SDWIS/FED (Round 2)	10,063	9,045	1,018	0.14%	0.11%	0.39%	< 0.00	< 0.00	0.70	0.10	0.10

Table D.2.b URCIS (Round 1) and SDWIS/FED (Round 2) Data- Naphthalene Occurrence in Public Water Systems - Based on Number of Systems

STATE	TOTAL UNIQUE PWS	# GW PWS	# SW PWS	% PWS > MRL	% GW PWS > MRL	% SW PWS > MRL	% PWS > 1/2 HRL	% GW PWS > 1/2 HRL	% SW PWS > 1/2 HRL	% PWS > HRL	% GW PWS > HRL	% SW PWS > HRL
AK - URCIS (Round 1)	674	543	131	4.75%	5.52%	1.53%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
AK - SDWIS/FED (Round 2)	625	481	144	4.48%	3.53%	7.64%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
KY - URCIS (Round 1)	524	291	233	1.15%	1.03%	1.29%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
KY - SDWIS/FED (Round 2)	212	103	109	0.47%	0.00%	0.92%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MD - URCIS (Round 1)	986	936	50	0.51%	0.53%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MD - SDWIS/FED (Round 2)	976	920	56	0.51%	0.11%	7.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MN - URCIS (Round 1)	1,557	1,529	28	0.06%	0.07%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
MN - SDWIS/FED (Round 2)	1,558	1,528	30	0.58%	0.46%	6.67%	0.06%	0.07%	0.00%	0.00%	0.00%	0.00%
NC - URCIS (Round 1)	298	254	44	0.34%	0.39%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NC - SDWIS/FED (Round 2)	1,776	1,586	190	1.18%	1.20%	1.05%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NM - URCIS (Round 1)	590	555	35	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
NM - SDWIS/FED (Round 2)	714	689	25	0.56%	0.44%	4.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OH - URCIS (Round 1)	2,655	2,489	166	0.68%	0.68%	0.60%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
OH - SDWIS/FED (Round 2)	2,232	2,050	182	1.39%	1.51%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WA - URCIS (Round 1)	1,014	937	77	0.20%	0.21%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
WA - SDWIS/FED (Round 2)	2,554	2,435	119	0.31%	0.21%	2.52%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

The Health Reference Level (HRL) used for Naphthalene is 140 (µg/L). This is a draft value for working review only.

**Appendix E. Summary Data for URCIS (Round 1) and SDWIS/FED
(Round 2) for Select Contaminants by System Type and Population Served**

Table E.1.a	URCIS (Round 1) Data - Hexachlorobutadiene Occurrence in Community Water Systems by Population Served
Table E.1.b	URCIS (Round 1) Data - Hexachlorobutadiene Occurrence in Non- Transient Non- Community Water Systems by Population Served
Table E.2.a	URCIS (Round 1) Data - Naphthalene Occurrence in Community Water Systems by Population Served
Table E.2.b	URCIS (Round 1) Data - Naphthalene Occurrence in Non- Transient Non- Community Water Systems by Population Served
Table E.3.a.1	SDWIS/FED (Round 2) Data - Sulfate Occurrence in Community Water Systems by Population Served (HRL = 500,000 Fg/L)
Table E.3.b.1	SDWIS/FED (Round 2) Data - Sulfate Occurrence in Non- Transient Non- Community Water Systems by Population Served (HRL = 500,000 Fg/L)
Table E.3.a.2	SDWIS/FED (Round 2) Data - Sulfate Occurrence in Community Water Systems by Population Served (HRL = 1,000,000 Fg/L)
Table E.3.b.2	SDWIS/FED (Round 2) Data - Sulfate Occurrence in Non- Transient Non- Community Water Systems by Population Served (HRL = 1,000,000 Fg/L)
Table E.4.a	SDWIS/FED (Round 2) Data - Aldrin Occurrence in Community Water Systems by Population Served
Table E.4.b	SDWIS/FED (Round 2) Data - Aldrin Occurrence in Non- Transient Non- Community Water Systems by Population Served
Table E.5.a	SDWIS/FED (Round 2) Data - Dieldrin Occurrence in Community Water Systems by Population Served
Table E.5.b	SDWIS/FED (Round 2) Data - Dieldrin Occurrence in Non- Transient Non- Community Water Systems by Population Served
Table E.6.a	SDWIS/FED (Round 2) Data - Metribuzin Occurrence in Community Water Systems by Population Served
Table E.6.b	SDWIS/FED (Round 2) Data - Metribuzin Occurrence in Non- Transient Non- Community Water Systems by Population Served
Table E.7.a	SDWIS/FED (Round 2) Data - Hexachlorobutadiene Occurrence in Community Water Systems by Population Served
Table E.7.b	SDWIS/FED (Round 2) Data - Hexachlorobutadiene Occurrence in Non- Transient Non- Community Water Systems by Population Served
Table E.8.a	SDWIS/FED (Round 2) Data - Naphthalene Occurrence in Community Water Systems by Population Served
Table E.8.b	SDWIS/FED (Round 2) Data - Naphthalene Occurrence in Non- Transient Non- Community Water Systems by Population Served

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table E.1.a URCIS (Round 1) Data- Hexachlorobutadiene Occurrence in Community Water Systems by Population Served

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²
< 500	0.22%	0.22%	0.11%	0.11%	2.26%	2.23%	0.19%	0.19%	0.09%	0.09%	2.26%	2.23%	0.14%	0.14%
501-3,300	0.10%	0.20%	0.06%	0.18%	0.33%	0.33%	0.10%	0.20%	0.06%	0.18%	0.33%	0.33%	0.05%	0.15%
3,301-10,000	0.23%	0.21%	0.17%	0.15%	0.35%	0.34%	0.12%	0.11%	0.00%	0.00%	0.35%	0.34%	0.12%	0.11%
10,001-50,000	0.93%	0.89%	1.23%	1.17%	2.44%	2.33%	0.40%	0.38%	0.61%	0.59%	0.00%	0.00%	0.00%	0.00%
> 50,000	1.46%	1.40%	2.40%	2.33%	6.38%	5.94%	0.98%	0.93%	1.60%	1.55%	0.00%	0.00%	0.00%	0.00%
TOTAL	0.29%	0.32%	0.23%	0.26%	0.61%	0.59%	0.21%	0.24%	0.16%	0.18%	0.52%	0.51%	0.16%	0.18%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²
< 500	0.06%	0.06%	1.69%	1.68%	< 0.00	< 0.00	< 5.00	< 5.00	10.00	10.00	0.16	0.16	3.10	3.10
501-3,300	0.06%	0.18%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	5.00	8.00	2.00	2.00	3.50	5.50
3,301-10,000	0.00%	0.00%	0.35%	0.34%	< 0.00	< 0.00	< 4.00	< 4.00	10.00	10.00	0.20	0.20	10.00	10.00
10,001-50,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 5.00	< 5.00	1.00	1.00	0.10	0.10	0.20	0.20
> 50,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 5.00	< 5.00	1.00	1.00	0.05	0.05	0.17	0.17
TOTAL	0.09%	0.12%	0.52%	0.51%	< 0.00	< 0.00	< 5.00	< 5.00	10.00	10.00	0.05	0.05	0.65	0.83

Table E.1.b URCIS (Round 1) Data- Hexachlorobutadiene Occurrence in Non-Transient Non-Community Water Systems by Population Served

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²
< 500	0.14%	0.14%	0.14%	0.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
501-3,300	0.40%	0.40%	0.42%	0.42%	0.00%	0.00%	0.20%	0.20%	0.21%	0.21%	0.00%	0.00%	0.00%	0.00%
3,301-10,000	11.11%	11.11%	11.11%	11.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
10,001-50,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
> 50,000														
TOTAL	0.20%	0.20%	0.21%	0.21%	0.00%	0.00%	0.09%	0.09%	0.09%	0.09%	0.00%	0.00%	0.00%	0.00%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²
< 500	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	0.50	0.50	0.05	0.05	0.30	0.30
501-3,300	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	1.00	1.00	0.13	0.13	0.57	0.57
3,301-10,000	0.00%	0.00%	0.00%	0.00%	< 0.05	< 0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
10,001-50,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 10.00	< 10.00	< 10.00	< 10.00				
> 50,000														
TOTAL	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	1.00	1.00	0.05	0.05	0.13	0.13

1. Analyses are based on data from the URCIS 24 State Cross-Section of: AK, AL, AZ, CA, FL, GA, HI, IA, IL, IN, KY, MD, MN, MT, NC, NJ, NM, OH, SD, TN, UT, WA, WV, WY.
 2. Analyses are based on data from all 40 States in the URCIS database.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table E.2.a URCIS (Round 1) Data- Naphthalene Occurrence in Community Water Systems by Population Served

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²
< 500	0.54%	0.69%	0.41%	0.58%	3.26%	3.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
501-3,300	0.68%	0.90%	0.58%	0.79%	1.23%	1.53%	0.05%	0.02%	0.05%	0.02%	0.00%	0.00%	0.05%	0.02%
3,301-10,000	2.19%	2.40%	2.62%	2.94%	1.25%	1.22%	0.10%	0.05%	0.15%	0.05%	0.00%	0.00%	0.10%	0.05%
10,001-50,000	2.63%	2.56%	2.34%	2.24%	2.89%	3.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
> 50,000	4.89%	4.74%	6.15%	5.97%	2.70%	3.36%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	1.07%	1.25%	0.89%	1.08%	2.08%	2.26%	0.02%	0.02%	0.03%	0.03%	0.00%	0.00%	0.02%	0.02%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²
< 500	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 5.00	< 5.00	25.00	25.00	0.15	0.15	2.00	1.30
501-3,300	0.05%	0.02%	0.00%	0.00%	< 0.00	< 0.00	< 3.00	< 4.00	900.00	900.00	0.18	0.18	1.90	1.75
3,301-10,000	0.15%	0.05%	0.00%	0.00%	< 0.00	< 0.00	< 5.00	< 5.00	906.00	906.00	0.50	0.40	1.40	1.50
10,001-50,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 5.00	< 5.00	19.00	19.00	0.50	0.50	1.00	0.96
> 50,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 5.00	< 5.00	13.00	18.00	0.05	0.05	1.00	1.00
TOTAL	0.03%	0.03%	0.00%	0.00%	< 0.00	< 0.00	< 5.00	< 5.00	906.00	906.00	0.05	0.05	1.02	1.02

Table E.2.b URCIS (Round 1) Data- Naphthalene Occurrence in Non-Transient Non-Community Water Systems by Population Served

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²
< 500	0.75%	0.79%	0.77%	0.80%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
501-3,300	1.15%	1.15%	1.22%	1.22%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3,301-10,000	10.00%	9.09%	10.00%	10.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
10,001-50,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
> 50,000														
TOTAL	0.84%	0.84%	0.86%	0.86%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²	24 ¹	ALL ²
< 500	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	14.20	14.20	0.03	0.03	0.90	0.80
501-3,300	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 5.00	< 5.00	7.00	7.00	0.70	0.70	0.95	0.95
3,301-10,000	0.00%	0.00%	0.00%	0.00%	< 0.05	< 0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
10,001-50,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 10.00	< 10.00	< 10.00	< 10.00				
> 50,000														
TOTAL	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	14.20	14.20	0.03	0.03	0.90	0.90

1. Analyses are based on data from the URCIS 24 State Cross-Section of: AK, AL, AZ, CA, FL, GA, HI, IA, IL, IN, KY, MD, MN, MT, NC, NJ, NM, OH, SD, TN, UT, WA, WV, WY.

2. Analyses are based on data from all 40 States in the URCIS database.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table E.3.a.1 SDWIS/FED (Round 2) Data- Sulfate Occurrence in Community Water Systems by Population Served (HRL = 500,000 µg/L)

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	85.27%	81.46%	85.15%	81.25%	86.75%	85.51%	4.50%	4.00%	4.45%	3.96%	5.62%	5.07%	1.82%	1.63%
501-3,300	90.76%	87.97%	90.77%	87.59%	90.71%	90.28%	6.19%	4.69%	5.85%	4.34%	8.08%	6.81%	1.51%	1.19%
3,301-10,000	92.96%	90.26%	93.60%	91.20%	91.46%	88.21%	5.23%	4.02%	3.81%	2.93%	8.54%	6.39%	1.17%	0.93%
10,001-50,000	95.71%	94.09%	94.12%	92.82%	97.35%	95.21%	8.58%	6.31%	4.41%	3.45%	12.88%	8.82%	1.49%	1.21%
> 50,000	93.94%	94.89%	94.87%	95.00%	93.55%	94.85%	9.85%	7.39%	7.69%	7.50%	10.75%	7.35%	0.76%	0.57%
TOTAL	88.08%	85.19%	87.55%	84.34%	91.61%	90.51%	5.30%	4.39%	4.80%	4.00%	8.83%	6.93%	1.65%	1.39%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	1.81%	1.62%	2.01%	1.81%	< 0.00	< 0.00	672,000	583,000	2,437,000	2,437,000	3.00	3.00	24,900	23,000
501-3,300	1.53%	1.17%	1.41%	1.30%	< 0.00	< 0.00	470,000	457,000	3,880,000	5,074,000	3.00	2.80	34,000	30,000
3,301-10,000	1.07%	0.90%	1.42%	0.98%	< 0.00	< 0.00	360,000	338,000	1,217,000	1,217,000	100.00	10.40	37,000	30,700
10,001-50,000	1.84%	1.44%	1.14%	1.01%	< 0.00	< 0.00	408,000	371,000	1,619,000	1,619,000	1.00	1.00	34,000	26,000
> 50,000	2.56%	2.50%	0.00%	0.00%	< 0.00	< 0.00	346,000	340,000	635,000	635,000	100.00	3.40	27,000	23,000
TOTAL	1.69%	1.42%	1.37%	1.15%	< 0.00	< 0.00	488,000	457,000	3,880,000	5,074,000	1.00	1.00	31,000	23,000

Table E.3.b.1 SDWIS/FED (Round 2) Data- Sulfate Occurrence in Non-Transient Non-Community Water Systems by Population Served (HRL = 500,000 µg/L)

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	87.96%	85.72%	87.94%	85.68%	89.47%	88.61%	4.36%	4.07%	4.32%	4.04%	6.58%	6.33%	2.11%	1.98%
501-3,300	89.97%	88.07%	89.58%	87.88%	100.00%	93.55%	3.44%	2.79%	3.58%	2.77%	0.00%	3.23%	1.95%	1.45%
3,301-10,000	94.44%	95.45%	93.75%	95.00%	100.00%	100.00%	11.11%	9.09%	12.50%	10.00%	0.00%	0.00%	0.00%	0.00%
10,001-50,000	100.00%	75.00%	100.00%	66.67%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
> 50,000	100.00%	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	88.24%	86.11%	88.16%	86.03%	92.31%	90.27%	4.26%	3.89%	4.25%	3.86%	4.81%	5.31%	2.08%	1.89%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	2.11%	1.97%	2.63%	2.53%	< 0.00	< 0.00	709,000	680,000	4,250,000	4,250,000	100	10	27,000	26,000
501-3,300	2.02%	1.50%	0.00%	0.00%	< 0.00	< 0.00	626,000	600,000	5,454,000	5,454,000	200	10	24,000	22,000
3,301-10,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	410,000	410,000	410,000	410,000	1,200	1,000	12,000	10,000
10,001-50,000	0.00%	0.00%	0.00%	0.00%	21,000.00	5.00	144,000	144,000	144,000	144,000	21,000	4,090	82,500	4,430
> 50,000	0.00%	0.00%	0.00%	0.00%	8,000.00	8,000.00	16,000	16,000	16,000	16,000	8,000	8,000	11,000	11,000
TOTAL	2.09%	1.89%	1.92%	1.77%	< 0.00	< 0.00	685,000	660,000	5,454,000	5,454,000	100	10	26,000	26,000

1. Analyses are based on data from the SDWIS/FED 20 State Cross-Section of: AK, AR, CO, KY, MA, MD, ME, MI, MN, MO, NC, ND, NH, NM, OH, OK, OR, RI, TX, WA.

2. Analyses are based on data from all 35 States in the SDWIS/FED database.

Sulfate data were analyzed using two different HRLs, and are, therefore, listed separately.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table E.3.a.2 SDWIS/FED (Round 2) Data- Sulfate Occurrence in Community Water Systems by Population Served (HRL = 1,000,000 µg/L)

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	85.27%	81.46%	85.15%	81.25%	86.75%	85.51%	1.82%	1.63%	1.81%	1.62%	2.01%	1.81%	0.47%	0.42%
501-3,300	90.76%	87.97%	90.77%	87.59%	90.71%	90.28%	1.51%	1.19%	1.53%	1.17%	1.41%	1.30%	0.31%	0.26%
3,301-10,000	92.96%	90.26%	93.60%	91.20%	91.46%	88.21%	1.17%	0.93%	1.07%	0.90%	1.42%	0.98%	0.32%	0.31%
10,001-50,000	95.71%	94.09%	94.12%	92.82%	97.35%	95.21%	1.49%	1.21%	1.84%	1.44%	1.14%	1.01%	0.37%	0.27%
> 50,000	93.94%	94.89%	94.87%	95.00%	93.55%	94.85%	0.76%	0.57%	2.56%	2.50%	0.00%	0.00%	0.00%	0.00%
TOTAL	88.08%	85.19%	87.55%	84.34%	91.61%	90.51%	1.65%	1.39%	1.69%	1.42%	1.37%	1.15%	0.40%	0.34%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.46%	0.40%	0.80%	0.72%	< 0.00	< 0.00	672,000	583,000	2,437,000	2,437,000	3.00	3.00	24,900	23,000
501-3,300	0.30%	0.25%	0.40%	0.32%	< 0.00	< 0.00	470,000	457,000	3,880,000	5,074,000	3.00	2.80	34,000	30,000
3,301-10,000	0.15%	0.23%	0.71%	0.49%	< 0.00	< 0.00	360,000	338,000	1,217,000	1,217,000	100.00	10.40	37,000	30,700
10,001-50,000	0.00%	0.00%	0.76%	0.50%	< 0.00	< 0.00	408,000	371,000	1,619,000	1,619,000	1.00	1.00	34,000	26,000
> 50,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	346,000	340,000	635,000	635,000	100.00	3.40	27,000	23,000
TOTAL	0.38%	0.33%	0.58%	0.44%	< 0.00	< 0.00	488,000	457,000	3,880,000	5,074,000	1.00	1.00	31,000	23,000

Table E.3.b.2 SDWIS/FED (Round 2) Data- Sulfate Occurrence in Non-Transient Non-Community Water Systems by Population Served (HRL = 1,000,000 µg/L)

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	87.96%	85.72%	87.94%	85.68%	89.47%	88.61%	2.11%	1.98%	2.11%	1.97%	2.63%	2.53%	0.39%	0.36%
501-3,300	89.97%	88.07%	89.58%	87.88%	100.00%	93.55%	1.95%	1.45%	2.02%	1.50%	0.00%	0.00%	0.30%	0.22%
3,301-10,000	94.44%	95.45%	93.75%	95.00%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
10,001-50,000	100.00%	75.00%	100.00%	66.67%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
> 50,000	100.00%	100.00%	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	88.24%	86.11%	88.16%	86.03%	92.31%	90.27%	2.08%	1.89%	2.09%	1.89%	1.92%	1.77%	0.38%	0.34%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.39%	0.37%	0.00%	0.00%	< 0.00	< 0.00	709,000	680,000	4,250,000	4,250,000	100	10	27,000	26,000
501-3,300	0.31%	0.23%	0.00%	0.00%	< 0.00	< 0.00	626,000	600,000	5,454,000	5,454,000	200	10	24,000	22,000
3,301-10,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	410,000	410,000	410,000	410,000	1,200	1,000	12,000	10,000
10,001-50,000	0.00%	0.00%	0.00%	0.00%	21,000.00	5.00	144,000	144,000	144,000	144,000	21,000	4,090	82,500	4,430
> 50,000	0.00%	0.00%	0.00%	0.00%	8,000.00	8,000.00	16,000	16,000	16,000	16,000	8,000	8,000	11,000	11,000
TOTAL	0.38%	0.35%	0.00%	0.00%	< 0.00	< 0.00	685,000	660,000	5,454,000	5,454,000	100	10	26,000	26,000

1. Analyses are based on data from the SDWIS/FED 20 State Cross-Section of: AK, AR, CO, KY, MA, MD, ME, MI, MN, MO, NC, ND, NH, NM, OH, OK, OR, RI, TX, WA.

2. Analyses are based on data from all 35 States in the SDWIS/FED database.

Sulfate data were analyzed using two different HRLs, and are, therefore, listed separately.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table E.4.a SDWIS/FED (Round 2) Data- Aldrin Occurrence in Community Water Systems by Population Served

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.00%	0.07%	0.00%	0.07%	0.00%	0.00%	0.00%	0.07%	0.00%	0.07%	0.00%	0.00%	0.00%	0.07%
501-3,300	0.00%	0.25%	0.00%	0.27%	0.00%	0.17%	0.00%	0.25%	0.00%	0.27%	0.00%	0.17%	0.00%	0.25%
3,301-10,000	0.29%	0.54%	0.51%	0.53%	0.00%	0.55%	0.29%	0.54%	0.51%	0.53%	0.00%	0.55%	0.29%	0.54%
10,001-50,000	0.00%	1.36%	0.00%	1.06%	0.00%	1.60%	0.00%	1.36%	0.00%	1.06%	0.00%	1.60%	0.00%	1.36%
> 50,000	0.00%	0.58%	0.00%	0.00%	0.00%	0.78%	0.00%	0.58%	0.00%	0.00%	0.00%	0.78%	0.00%	0.58%
TOTAL	0.02%	0.25%	0.03%	0.19%	0.00%	0.57%	0.02%	0.25%	0.03%	0.19%	0.00%	0.57%	0.02%	0.25%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.00%	0.07%	0.00%	0.00%	< 0.00	< 0.00	< 1.00	< 1.00	< 30.00	0.21		0.10		0.16
501-3,300	0.00%	0.27%	0.00%	0.17%	< 0.00	< 0.00	< 30.00	< 30.00	< 50.00	0.68		0.09		0.11
3,301-10,000	0.51%	0.53%	0.00%	0.55%	< 0.00	< 0.00	< 2.00	< 1.00	0.69	0.69	0.46	0.17	0.58	0.46
10,001-50,000	0.00%	1.06%	0.00%	1.60%	< 0.00	< 0.00	< 2.00	2.00	< 30.00	0.18		0.07		0.17
> 50,000	0.00%	0.00%	0.00%	0.78%	< 0.00	< 0.00	< 2.00	2.00	< 30.00	0.43		0.07		0.41
TOTAL	0.03%	0.19%	0.00%	0.57%	< 0.00	< 0.00	< 2.00	< 1.00	< 4.40	4.40	0.46	0.07	0.58	0.16

Table E.4.b SDWIS/FED (Round 2) Data- Aldrin Occurrence in Non-Transient Non-Community Water Systems by Population Served

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.00%	0.14%	0.00%	0.15%	0.00%	0.00%	0.00%	0.14%	0.00%	0.15%	0.00%	0.00%	0.00%	0.14%
501-3,300	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3,301-10,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
10,001-50,000		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
> 50,000														
TOTAL	0.00%	0.12%	0.00%	0.13%	0.00%	0.00%	0.00%	0.12%	0.00%	0.13%	0.00%	0.00%	0.00%	0.12%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.00%	0.15%	0.00%	0.00%	< 0.00	< 0.00	< 1.00	< 1.00	< 30.00	0.10		0.10		0.84
501-3,300	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 30.00	< 2.00	< 30.00	< 30.00				
3,301-10,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.20	< 0.20	< 0.20	< 0.20				
10,001-50,000		0.00%		0.00%		< 0.00		< 0.00		< 0.00				
> 50,000														
TOTAL	0.00%	0.13%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 1.00	< 4.40	4.40		0.10		0.84

Massachusetts data not included in summary statistics for this contaminant.

- Analyses are based on data from the SDWIS/FED 20 State Cross-Section of: AK, AR, CO, KY, MA, MD, ME, MI, MN, MO, NC, ND, NH, NM, OH, OK, OR, RI, TX, WA.
- Analyses are based on data from all 35 States in the SDWIS/FED database.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table E.5.a SDWIS/FED (Round 2) Data- Dieldrin Occurrence in Community Water Systems by Population Served

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.07%	0.09%	0.07%	0.09%	0.00%	0.00%	0.07%	0.09%	0.07%	0.09%	0.00%	0.00%	0.07%	0.09%
501-3,300	0.00%	0.11%	0.00%	0.09%	0.00%	0.18%	0.00%	0.11%	0.00%	0.09%	0.00%	0.18%	0.00%	0.11%
3,301-10,000	0.16%	0.23%	0.00%	0.18%	0.40%	0.32%	0.16%	0.23%	0.00%	0.18%	0.40%	0.32%	0.16%	0.23%
10,001-50,000	0.21%	1.27%	0.45%	1.08%	0.00%	1.42%	0.21%	1.27%	0.45%	1.08%	0.00%	1.42%	0.21%	1.27%
> 50,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	0.06%	0.18%	0.06%	0.13%	0.08%	0.44%	0.06%	0.18%	0.06%	0.13%	0.08%	0.44%	0.06%	0.18%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.07%	0.09%	0.00%	0.00%	< 0.00	< 0.00	< 0.20	< 0.20	0.08	0.10	0.02	0.02	0.05	0.08
501-3,300	0.00%	0.09%	0.00%	0.18%	< 0.00	< 0.00	< 20.00	< 1.00	< 50.00	0.04		0.01		0.02
3,301-10,000	0.00%	0.18%	0.40%	0.32%	< 0.00	< 0.00	< 20.00	< 0.20	0.09	0.10	0.09	0.09	0.09	0.10
10,001-50,000	0.45%	1.08%	0.00%	1.42%	< 0.00	< 0.00	< 20.00	0.88	0.10	0.10	0.10	0.01	0.10	1.65
> 50,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.30	< 0.30	20.00	20.00				
TOTAL	0.06%	0.13%	0.08%	0.44%	< 0.00	< 0.00	< 1.00	< 0.30	4.40	4.40	0.02	0.01	0.08	0.08

Table E.5.b SDWIS/FED (Round 2) Data- Dieldrin Occurrence in Non-Transient Non-Community Water Systems by Population Served

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.09%	0.24%	0.09%	0.25%	0.00%	0.00%	0.09%	0.24%	0.09%	0.25%	0.00%	0.00%	0.09%	0.24%
501-3,300	0.40%	0.33%	0.43%	0.36%	0.00%	0.00%	0.40%	0.33%	0.43%	0.36%	0.00%	0.00%	0.40%	0.33%
3,301-10,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
10,001-50,000		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
> 50,000														
TOTAL	0.12%	0.25%	0.13%	0.26%	0.00%	0.00%	0.12%	0.25%	0.13%	0.26%	0.00%	0.00%	0.12%	0.25%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.09%	0.25%	0.00%	0.00%	< 0.00	< 0.00	< 1.00	< 0.20	1.36	1.36	0.02	0.02	0.18	0.20
501-3,300	0.43%	0.36%	0.00%	0.00%	< 0.00	< 0.00	< 20.00	< 1.00	0.35	0.35	0.20	0.20	0.27	0.27
3,301-10,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 0.20	< 0.20	< 0.20	< 0.20				
10,001-50,000		0.00%		0.00%		< 0.00		< 0.00		< 0.00				
> 50,000														
TOTAL	0.13%	0.26%	0.00%	0.00%	< 0.00	< 0.00	< 1.00	< 1.00	4.40	4.40	0.02	0.02	0.20	0.20

Massachusetts data not included in summary statistics for this contaminant.

- Analyses are based on data from the SDWIS/FED 20 State Cross-Section of: AK, AR, CO, KY, MA, MD, ME, MI, MN, MO, NC, ND, NH, NM, OH, OK, OR, RI, TX, WA.
- Analyses are based on data from all 35 States in the SDWIS/FED database.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table E.6.a SDWIS/FED (Round 2) Data- Metribuzin Occurrence in Community Water Systems by Population Served

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.02%	0.09%	0.02%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
501-3,300	0.00%	0.15%	0.00%	0.05%	0.00%	0.49%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3,301-10,000	0.00%	0.23%	0.00%	0.00%	0.00%	0.51%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
10,001-50,000	0.00%	2.49%	0.00%	0.76%	0.00%	3.57%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
> 50,000	0.00%	2.79%	0.00%	0.00%	0.00%	3.57%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	0.01%	0.33%	0.01%	0.10%	0.00%	1.35%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	0.10	3.00	0.10	0.10	0.10	1.00
501-3,300	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	< 50.00	3.00		1.00		1.00
3,301-10,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	< 100.00	3.00		1.00		1.00
10,001-50,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 10.00	< 10.00	3.00		1.00		1.05
> 50,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	< 10.00	3.00		1.00		1.00
TOTAL	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	2.00	3.00	0.10	0.10	0.10	1.00

Table E.6.b SDWIS/FED (Round 2) Data- Metribuzin Occurrence in Non-Transient Non-Community Water Systems by Population Served

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.00%	0.15%	0.00%	0.15%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
501-3,300	0.00%	0.43%	0.00%	0.47%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3,301-10,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
10,001-50,000		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%		0.00%
> 50,000														
TOTAL	0.00%	0.18%	0.00%	0.19%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	< 1010.00	3.00		0.10		1.00
501-3,300	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	< 10.00	3.00		1.00		1.00
3,301-10,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	< 2.00	< 2.00				
10,001-50,000		0.00%		0.00%		< 0.00		< 0.0002		< 0.0002				
> 50,000														
TOTAL	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	< 1.10	3.00		0.10		1.00

Massachusetts data not included in summary statistics for this contaminant.

- Analyses are based on data from the SDWIS/FED 20 State Cross-Section of: AK, AR, CO, KY, MA, MD, ME, MI, MN, MO, NC, ND, NH, NM, OH, OK, OR, RI, TX, WA.
- Analyses are based on data from all 35 States in the SDWIS/FED database.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table E.7.a SDWIS/FED (Round 2) Data- Hexachlorobutadiene Occurrence in Community Water Systems by Population Served

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.27%	0.25%	0.19%	0.18%	1.86%	1.82%	0.07%	0.07%	0.05%	0.05%	0.41%	0.40%	0.02%	0.02%
501-3,300	0.12%	0.13%	0.12%	0.13%	0.14%	0.13%	0.10%	0.11%	0.12%	0.13%	0.00%	0.00%	0.02%	0.02%
3,301-10,000	0.16%	0.14%	0.12%	0.10%	0.25%	0.23%	0.16%	0.14%	0.12%	0.10%	0.25%	0.23%	0.00%	0.00%
10,001-50,000	0.38%	0.34%	0.27%	0.23%	0.49%	0.44%	0.26%	0.23%	0.27%	0.23%	0.24%	0.22%	0.00%	0.00%
> 50,000	0.55%	0.47%	0.00%	0.00%	0.74%	0.64%	0.55%	0.47%	0.00%	0.00%	0.74%	0.64%	0.00%	0.00%
TOTAL	0.23%	0.22%	0.17%	0.16%	0.65%	0.61%	0.10%	0.09%	0.08%	0.08%	0.23%	0.22%	0.02%	0.02%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.01%	0.01%	0.21%	0.20%	< 0.00	< 0.00	< 1.00	< 1.00	1.50	1.50	0.10	0.10	0.20	0.20
501-3,300	0.03%	0.03%	0.00%	0.00%	< 0.00	< 0.00	< 1.00	< 1.00	1.06	1.06	0.20	0.20	0.50	0.50
3,301-10,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 1.00	< 1.00	0.50	0.50	0.50	0.50	0.50	0.50
10,001-50,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 1.00	< 1.00	0.80	0.80	0.20	0.20	0.50	0.50
> 50,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 1.00	< 1.00	0.60	0.60	0.60	0.60	0.60	0.60
TOTAL	0.01%	0.01%	0.05%	0.04%	< 0.00	< 0.00	< 1.00	< 1.00	1.50	1.50	0.10	0.10	0.30	0.20

Table E.7.b SDWIS/FED (Round 2) Data- Hexachlorobutadiene Occurrence in Non-Transient Non-Community Water Systems by Population Served

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.05%	0.05%	0.05%	0.05%	0.00%	0.00%	0.04%	0.03%	0.04%	0.03%	0.00%	0.00%	0.02%	0.02%
501-3,300	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3,301-10,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
10,001-50,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
> 50,000														
TOTAL	0.05%	0.04%	0.05%	0.04%	0.00%	0.00%	0.03%	0.03%	0.03%	0.03%	0.00%	0.00%	0.02%	0.01%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.02%	0.02%	0.00%	0.00%	< 0.00	< 0.00	< 1.00	< 1.00	1.40	1.40	0.10	0.10	0.50	0.50
501-3,300	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 1.00	< 1.00	< 1.00	< 1.00				
3,301-10,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 1.00	< 1.00	< 1.00	< 1.00				
10,001-50,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 1.00	< 1.00	< 1.00	< 1.00				
> 50,000														
TOTAL	0.02%	0.01%	0.00%	0.00%	< 0.00	< 0.00	< 1.00	< 1.00	1.40	1.40	0.10	0.10	0.50	0.50

New Hampshire data not included in summary statistics for this contaminant.

- Analyses are based on data from the SDWIS/FED 20 State Cross-Section of: AK, AR, CO, KY, MA, MD, ME, MI, MN, MO, NC, ND, NH, NM, OH, OK, OR, RI, TX, WA.
- Analyses are based on data from all 35 States in the SDWIS/FED database.

Occurrence of 1998 CCL Priority Contaminants in Public Water Systems

Table E.8.a SDWIS/FED (Round 2) Data- Naphthalene Occurrence in Community Water Systems by Population Served

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.76%	0.70%	0.67%	0.62%	2.47%	2.41%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
501-3,300	0.50%	0.54%	0.43%	0.47%	0.80%	0.89%	0.02%	0.02%	0.03%	0.02%	0.00%	0.00%	0.00%	0.00%
3,301-10,000	1.36%	1.23%	0.84%	0.80%	2.38%	2.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
10,001-50,000	2.28%	2.25%	1.59%	1.61%	2.91%	2.86%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
> 50,000	3.85%	3.76%	2.17%	3.64%	4.41%	3.80%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTAL	0.84%	0.81%	0.65%	0.63%	2.09%	2.04%	0.01%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	18.00	18.00	0.07	0.07	0.80	0.80
501-3,300	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	80.00	80.00	0.10	0.10	0.95	0.90
3,301-10,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	2.00	2.00	2.00	2.00	0.09	0.09	0.51	0.53
10,001-50,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	2.00	2.00	5.00	5.00	0.08	0.08	0.60	0.61
> 50,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	1.00	1.00	1.30	1.30	0.10	0.10	0.32	0.34
TOTAL	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	80.00	80.00	0.07	0.07	0.68	0.80

Table E.8.b SDWIS/FED (Round 2) Data- Naphthalene Occurrence in Non-Transient Non-Community Water Systems by Population Served

POPULATION SERVED	% PWS > MRL		% GW PWS > MRL		% SW PWS > MRL		% PWS > 1/2 HRL		% GW PWS > 1/2 HRL		% SW PWS > 1/2 HRL		% PWS > HRL	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.53%	0.51%	0.54%	0.52%	0.00%	0.00%	0.02%	0.02%	0.02%	0.02%	0.00%	0.00%	0.00%	0.00%
501-3,300	0.45%	0.42%	0.48%	0.45%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3,301-10,000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
10,001-50,000	33.33%	25.00%	50.00%	33.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
> 50,000														
TOTAL	0.53%	0.51%	0.55%	0.52%	0.00%	0.00%	0.02%	0.01%	0.02%	0.01%	0.00%	0.00%	0.00%	0.00%

POPULATION SERVED	% GW PWS > HRL		% SW PWS > HRL		MIN VALUE (µg/L)		99% VALUE (µg/L)		MAX VALUE (µg/L)		MIN DETECTS (µg/L)		MEDIAN DETECTS (µg/L)	
	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²	20 ¹	ALL ²
< 500	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	90.00	90.00	0.10	0.10	0.94	0.94
501-3,300	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	0.80	0.80	0.50	0.50	0.70	0.70
3,301-10,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	< 2.00	< 2.00	3.00	3.00	3.00	3.00
10,001-50,000	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	3.00	3.00	3.00	3.00				
> 50,000														
TOTAL	0.00%	0.00%	0.00%	0.00%	< 0.00	< 0.00	< 2.00	< 2.00	90.00	90.00	0.10	0.10	0.90	0.94

New Hampshire data not included in summary statistics for this contaminant.

- Analyses are based on data from the SDWIS/FED 20 State Cross-Section of: AK, AR, CO, KY, MA, MD, ME, MI, MN, MO, NC, ND, NH, NM, OH, OK, OR, RI, TX, WA.
- Analyses are based on data from all 35 States in the SDWIS/FED database.