



# Providing Safe Drinking Water In America

## 1997 National Public Water Systems Compliance Report and Update on Implementation of the 1996 Safe Drinking Water Act Amendments

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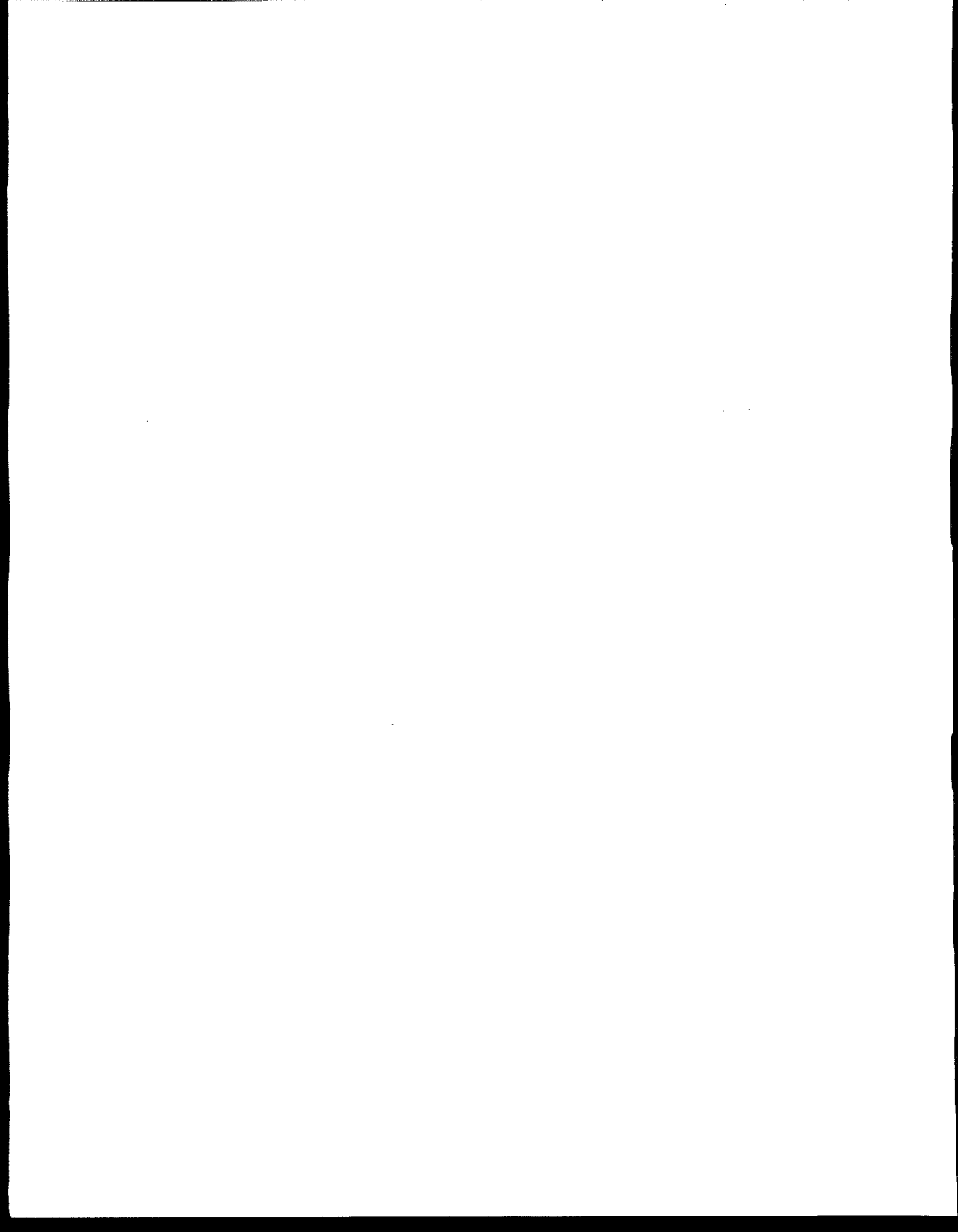
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# Executive Summary

## INTRODUCTION

This second annual national Public Water Systems Compliance Report describes how well States and the Environmental Protection Agency (EPA) are meeting the goal of ensuring the public receives safe drinking water from public water systems and the steps we are taking to improve the data that allow us to measure our success. The Executive Summary presents this information in brief. A Background section provides information on the Safe Drinking Water Act requirements. There is a section that focuses on Public Water System (PWS) performance in States. Another section discusses PWS performance on Indian reservations. A final section discusses activities under way that will further safeguard and improve the quality of drinking water while increasing the public's access to information about the water it drinks.

The national report, and the annual State reports that it summarizes and evaluates, are mandated by Section 1414(c)(3) of the Safe Drinking Water Act, as amended, 1996. State annual reports are released in July, six months after the close of the reporting year. EPA issues its annual national report six months after receipt of the State reports.

## ASSESSING PWS COMPLIANCE WITH DRINKING WATER STANDARDS

This report presents compliance information for 1997 using State and Tribal data from EPA's Safe Drinking Water Information System (SDWIS/FED) and discusses ways to improve both the data and overall compliance. SDWIS/FED is an exceptions-based database, meaning that only violations are recorded. The information presented in this report is a summary of data that States provide to EPA through SDWIS/FED regarding violations of

regulations that 1) set safe levels (Maximum Contaminant Levels) for contaminants in drinking water, 2) specify techniques for treating water to make it safe, and 3) set monitoring and reporting requirements that specify how and when water must be tested for the presence of contaminants. Monitoring and reporting violations concern EPA because in the absence of monitoring, EPA, States, and Tribes cannot know the quality of the water delivered to consumers. Thus, consumers may unknowingly be at risk, and consumers, States, Tribes, and EPA cannot take appropriate steps to safeguard public health.

## RESULTS IN BRIEF

In 1997, the vast majority of people in the nation received water from systems that reported neither violations of MCL and treatment technique requirements nor significant violations of monitoring and reporting requirements. While this report looks at the compliance status of all types of public water systems; its primary focus is on community water systems, where most Americans get their drinking water.

The data for calendar year 1997 show that America's drinking water remains generally safe. Compared to data for calendar year 1996, the percentage of water systems with violations fell between one and three percent in every category. There was a 31% reduction in the aggregate number of MCL, treatment technique and significant monitoring and reporting violations at public water systems, the number falling from 141,617 total violations in 1996 to 97,661 total violations in 1997. This reduction of almost 44,000 violations even though the percentage of systems reporting violations remained essentially unchanged means that there were fewer violations per violating public water system in 1997—potentially meaning that millions fewer Americans were at risk of

drinking unsafe water. As this report makes plain, however, more work needs to be done to improve compliance in specific areas and to improve the quality of data.

### **Public Water Systems**

The 170,376 Public Water Systems (PWS) in 1997 were one of three types:

**Community systems** serve at least 25 people year-round in their primary residences.

Community water systems made up less than a third of all PWSs, but served more than 91% of the population served by PWSs.

**Non-transient Non-community systems** serve at least 25 of the same persons for more than six months in a year (e.g., schools or factories that have their own water source).

**Transient Non-community systems** do not serve at least 25 of the same persons for more than six months in a year (e.g., campgrounds, highway rest stops that have their own water source).

Some of the most notable findings for 1997 are:

**The nation's drinking water is generally safe—at 79% of all public water systems, there were neither reported violations of health-based standards nor significant violations of monitoring and reporting requirements.**

- 77% of community water systems had no reported violations of MCL or treatment technique requirements and no significant violations of monitoring and reporting requirements.
- 76% of non-transient non-community water systems had no reported violations of MCL or treatment technique requirements and no significant violations of monitoring and reporting requirements.
- 81% of transient non-community water systems had no reported violations of MCL or treatment technique requirements and no significant violations of monitoring and reporting requirements.

**95% of America's public water systems reported no violations of any health-based drinking water standards.**

- 92% of all community water systems, serving 88% of the country's population, had no reported MCL or treatment technique violations.
- Most reported MCL or treatment technique violations were of either the Total Coliform Rule or the Surface Water Treatment Rule – rules that protect against microbiological contamination in drinking water.

**Most violations were significant violations of monitoring and reporting requirements rather than violations of health-based drinking water standards.**

- In 1997, there were 97,661 MCL, treatment technique, and significant monitoring and reporting violations reported by 35,436 of the 170,376 public water systems in the nation.
- 15% were violations of MCL and treatment technique requirements.
- 85% were significant violations of monitoring and reporting requirements.

**Only 2% of public water systems served more than 10,000 people, but violations at a few large systems potentially affected large populations.**

- 4% of the public water systems that reported MCL or treatment technique violations served more than 10,000 people. Violations of health-based standards at these 375 large systems potentially affected more than 26 million people.

**95% of public water systems served 3,300 or fewer people. Most violations of drinking water standards occurred at a small system.**

- 91% of the public water systems that reported MCL or treatment technique violations served 3,300 or fewer people. Violations of health-based standards at these 8,477 small systems potentially affected 2.7 million people.



- 98% of significant monitoring and reporting violations at public water systems occurred at systems that served 3,300 or fewer people. These 28,396 small systems with a significant monitoring and reporting violation served 5.6 million people.

#### **States and EPA continued to pursue violators**

- In fiscal year 1997, the States issued a total of 913 formal enforcement actions, including 632 administrative orders without penalty, 220 administrative orders with penalty, 60 civil referrals, and 1 criminal referral.
- In fiscal year 1997, EPA issued 266 notices of violation, 392 Federal administrative orders, 12 complaints for penalty, and 4 referrals for civil judicial action.

States and EPA offered compliance assistance to public water systems.

- States engaged in a wide range of activities to facilitate the attempts of public water systems to comply with SDWIS, including, among other things, onsite visits, operator training, informational mailings, and financial assistance through the State Revolving Fund.
- EPA conducted on-site visits to public water systems, provided needed compliance information and tools, developed and distributed guidance for water system operators and for regulators, and supported State delivery of compliance assistance.

#### **At 46% of public water systems located on Indian reservations, there were neither reported violations of health-based standards nor significant violations of monitoring and reporting requirements.**

- 48% of community water systems located on Indian reservations had no reported violations of MCL or treatment technique requirements and no significant violations of monitoring and reporting requirements.

- 40% of non-transient non-community water systems located on Indian reservations had no reported violations of MCL or treatment technique requirements and no significant violations of monitoring and reporting requirements.
- 39% of transient non-community systems located on Indian reservations had no reported violations of MCL or treatment technique requirements and no significant violations of monitoring and reporting requirements.

#### **89% of public water systems located on Indian reservations had no reported violations of health-based MCL or treatment technique requirements.**

- 89% of community water systems located on Indian reservations had no reported MCL or treatment technique violations.
- 89% of non-transient non-community water systems located on Indian reservations had no reported MCL or treatment technique violations.
- 90% of transient non-community systems located on Indian reservations had no reported violations of MCL or treatment technique requirements.
- In all categories of water systems, the health-based standard most frequently violated (138 of 156 health-based standard violations) was the MCL for the Total Coliform Rule.

#### **Most violations at public water systems on Indian reservations were significant violations of monitoring and reporting requirements, not violations of health-based drinking water standards.**

- In 1997, there were 1,040 MCL, treatment technique, and significant monitoring and reporting violations reported by 500 of the 930 public water systems located on Indian reservations.
- 156 (15%) were violations of MCL and treatment technique requirements.
- 884 (85%) were significant violations of monitoring and reporting requirements.

**Even so, 66% of public water systems located on Indian reservations had no significant violations of monitoring and reporting requirements.**

- 68% of community water systems located on Indian reservations had no significant violations of monitoring and reporting requirements.
- 57% of non-transient non-community water systems located on Indian reservations had no significant violations of monitoring and reporting requirements.
- 62% of transient non-community water systems located on Indian reservations had no significant violations of monitoring and reporting requirements.
- Violations of the monitoring and reporting requirements of the Total Coliform rule accounted for 723 of the 884 significant monitoring and reporting violations at public water systems on Indian reservations in 1997.

**98% of all public water systems located on Indian reservations served 3,300 or fewer people.**

- 709 of the 728 community water systems located on Indian reservations served 3,300 or fewer people. Only one community water system served more than 10,000 people.
- All 77 non-transient non-community water systems located on Indian reservations served fewer than 3,300 people
- Only one of the 125 transient non-community water systems located on Indian reservations served more than 3,300 people.

**EPA offered compliance assistance to public water systems on Indian Reservations.**

- In 1997, EPA recorded 550 responses other than formal administrative or judicial enforcement to the 1040 violations at 500 violating public water systems on Indian reservations.

- EPA's compliance assistance to Tribes included, among other things, circuit riders, onsite visits, informational mailings, and financial assistance.

**EPA allotted \$2.7 million for implementing the Public Water System Supervision program on Tribal lands in Fiscal Year 1997.**

- Additionally, a number of grants have been awarded to Indian Tribes and Tribal Organizations to address various aspects of the drinking water program.
- Budget set-asides in Fiscal Years 1998 and 1999 are to be used for: Public Water System Supervision Program Primacy Workshops, Capacity Development, Source Water Protection, and Operator Certification.

## **ACTIVITIES UNDERWAY TO IMPLEMENT THE SDWA AMENDMENTS OF 1996**

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The Clinton Administration has always recognized that many tools and resources are essential to ensure that Americans have drinking water that meets all health standards. The SDWA Amendments of 1996 provided many new authorities to enable EPA to more quickly meet its goal of safe drinking water. Now, two and a half years after passage of the 1996 Amendments, EPA has exercised these authorities and finalized every product required in the law to date and has done so with maximum stakeholder involvement.

### **1. PROMOTING PUBLIC INFORMATION AND INVOLVEMENT**

The public has a right to know what is in its drinking water and to participate in decisions affecting that drinking water. The 1996 Amendments include a strong and pervasive ethic of public information and involvement, and, in this second year of implementing the Amendments, EPA and its partners have produced major tools and undertaken a variety of activities to ensure that the public is well informed.

- **Consumer Confidence Reports:** In August 1998, EPA promulgated a rule to require drinking water systems to provide their customers annual reports on the quality of their drinking water supply. The information contained in these reports will enable Americans to make practical, knowledgeable decisions about their health and their environment. Systems will deliver the first of these reports to their customers before October 1999.
- **Ensuring Public Access to Additional Information:** EPA is acting to ensure that new information tools are made available to the public. This year, EPA worked with States and other stakeholders on ways to make the results of upcoming source water assessments available to the public. EPA has formed a Public Right-to-Know working group of the National Drinking Water Advisory Council to discuss how to make drinking water information available to the public, and how to involve all interested parties in the decision-making process.
- **Using the Internet to Increase Public Access:** EPA has been working over the past two years to make drinking water information available to the public via the Internet (<http://www.epa.gov/safewater>). EPA has created and will expand a geographic information site where consumers will be able to get information about their drinking water, including information on violations of drinking water standards, State compliance reports, water system consumer confidence reports, and State drinking water information and contacts.

## 2. PROVIDING TOOLS TO STATES, TRIBES, AND WATER SYSTEMS TO IMPROVE COMPLIANCE

The 1996 SDWA Amendments gave the nation a new approach to drinking water protection which focuses attention on the highest public health priorities. This includes a holistic

approach to prevention and protection, an emphasis on the public's right-to-know, and a series of building blocks for States and water suppliers that can help in implementation. Two years after passage of the Amendments, most of these building blocks are in place. They include:

- **Drinking Water State Revolving Fund (DWSRF)**
- **Capacity Development**
- **Water System Operator Certification**
- **Source Water Protection**
- **Proposed Regulation for Underground Injection Control Class V Wells**
- **Support for Indian Tribes**

## 3. HELPING SMALL SYSTEMS PROVIDE SAFE DRINKING WATER

Although they serve a small percentage of the nation's population, water systems serving fewer than 10,000 persons constitute the majority of all community drinking water systems. Small systems often do not have a full-time operator, and their limited customer base often makes compliance with public health standards difficult due to affordability problems. The 1996 Amendments created several new tools to help address the special needs of small systems.

- **List of Small System Compliance Technologies**
- **Variances and Exemptions Rule**
- **Technical Assistance**

These efforts will be of particular importance to Tribes. None of the 930 PWSs on Indian reservations in 1997 served more than 100,000 people, and only two served populations of more than 10,000.

## 4. FOCUSING SAFETY STANDARDS ON THE MOST SERIOUS HEALTH RISKS

Strengthening research to support development of regulations based on sound science is one of the most significant provisions in the 1996 Amendments. The first major products of that increased scientific focus were produced in 1998. These products demonstrate the principles of targeting and focusing research on

high risk contaminants. Products to date include:

- **The Contaminant Candidate List**
- **Strengthening Research**
- **Microbial and Disinfectants/Disinfection Byproducts Rules**

## **5. EXERCISING NEW ENFORCEMENT AUTHORITIES AND UNDERTAKING COMPLIANCE ASSISTANCE**

EPA and the States are continuing to work toward implementing the streamlined enforcement provisions of the SDWA Amendments, recognizing that credible, firm, and fair enforcement responses play an important role both in deterring noncompliance and in maintaining a level playing field for the regulated community.

EPA's current enforcement priorities focus on those regulations and contaminants which pose the greatest risk to public health, i.e., the microbiological regulations (Total Coliform Rule and Surface Water Treatment Rule), lead and copper, and other acute contaminants (e.g., nitrate).

To complement its enforcement activities, EPA also undertakes compliance assistance to help increase public water systems' understanding of, and compliance with, drinking water requirements. The Agency conducted more than 3,180 compliance assistance activities, including on-site visits to public water systems and development and distribution of compliance assistance tools. In September of 1998, the Agency opened a Compliance Assistance Center, the Local Government Environmental Assistance Network (LGEAN), designed to help local government officials stay abreast of the latest environmental requirements and technologies, including drinking water issues. LGEAN is coordinated by a number of partners, such as drinking water and governmental associations. The network will help governments disseminate information on drinking water to help systems treat water more effectively and will field questions on environmental compliance and assistance information for State and local officials, inspectors, and regulators. LGEAN

can be accessed at <http://www.lgean.org>, or toll free at 1-877-TO LGEAN.

## **6. IMPROVING THE DATA THAT DESCRIBE AMERICA'S DRINKING WATER**

The nation needs reliable data in order to ensure proper management of its drinking water program. It is of great importance to EPA and its partners to improve quality and accuracy of drinking water data. EPA has collected data from States for approximately 20 years on violations of drinking water standards and stored them in an EPA data system that has recently been modernized and renamed the Safe Drinking Water Information System (SDWIS/FED). Portions of SDWIS/FED still under development will better track compliance with existing and future regulations, track drinking water goals developed to meet the Government Performance and Results Act, and also make data recovery easier for the public.

In preparing the 1996 national report, EPA identified numerous discrepancies between the data some States reported in their annual State reports and the data they reported to SDWIS/FED. To ensure SDWIS/FED data reliability, EPA has initiated a major effort to improve data quality. In response to input received at three public meetings, the effort includes establishing a data quality goal, improving the way drinking water data are presented in EPA's publicly-accessible Envirofacts web site (<http://www.epa.gov/enviro>), characterizing and quantifying the data quality problem, and taking both interim and long-term steps to improve data quality. These steps are outlined in the recommendations described later in this report.

SDWIS/FED data are also used by EPA's Center for Environmental Information and Statistics (CEIS) to prepare environmental profiles that are available for each county, state, and territory in the United States. The public can access these profiles, as well as a digital library of reports on environmental quality and an environmental atlas, at <http://www.epa.gov/ceis>.

In addition to having information about actual violations of drinking water standards for treated drinking water, the nation also needs information on the occurrence of contaminants

in our sources of drinking water. The SDWA Amendments of 1996 mandated that EPA prepare a National Contaminant Occurrence Database (NCOD) by August 1999 that will contain information about the pollutants found in sources of drinking water. NCOD will draw on other databases from both inside EPA and from partners such as the U.S. Geological Survey, and will also include information from forthcoming State source water assessments. The database will give both managers and the public information on the quality of water which is subsequently treated to become our drinking water.

The planned improvements to data in SDWIS/FED as well as the new data available in 1999 through the NCOD will give the public and the drinking water community a better picture of the quality of our drinking water.

## **RECOMMENDATIONS AND FOLLOW-UP ACTIVITIES**

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The SDWA Amendments of 1996 require that the Administrator make "recommendations concerning the resources needed to improve compliance" within the national compliance report. The first national PWS compliance report, which was issued in September of 1998, made general recommendations about where States and EPA should direct their efforts, based on existing resource levels and appropriations, to improve compliance. Because of the short interval between the 1996 and 1997 national reports, the recommendations for the two reports are the same.

Most of the recommendations involve coordinated effort on the part of EPA and States, or EPA and Indian Tribes, to address violations of a specific type or to improve the collection and maintenance of compliance data. As detailed in the discussion that follows, many of the activities underway to implement the SDWA Amendments of 1996 are directly responsive to these recommendations.

### **1. ENFORCEMENT AND COMPLIANCE ASSISTANCE RECOMMENDATIONS REGARDING PUBLIC WATER SYSTEMS IN STATES**

- **States and EPA should work together to address significant violations of monitoring and reporting requirements.**
- **States and EPA should work together to address violations of MCL and treatment technique requirements.**
- **States and EPA should work together to address violations at non-community water systems.**

EPA and the States are working to address these recommendations on a number of fronts. Improving compliance requires a mix of compliance assistance, capacity building activities, and targeted enforcement activities.

A key part of improving compliance with both health-based standards and monitoring and reporting requirements is ensuring that operators of public water systems have the information and the training they need to do their jobs properly. The 1996 Amendments provided funding to support nine technology assistance centers to help small systems with training, technical assistance, and technology demonstrations. Additionally, EPA and the States facilitate compliance with existing drinking water requirements by conducting numerous compliance assistance activities, such as on-site visits and development and distribution of plain English guides and checklists on regulatory requirements. EPA, with its State and drinking water stakeholder partners, are also working pro-actively to ensure that the operators of public water systems understand and are prepared to comply with new requirements, like Consumer Confidence Reports, and new standards, like the Disinfection By-products Rule. EPA is using the new Local Government Environmental Assistance Network (LGEAN) as an interactive platform to provide free information on current and developing SDWA requirements. LGEAN provides information and compliance tools to anyone with Internet or

telephone access, and gives anyone with Internet or telephone access an avenue for conveying questions and comments to EPA.

Making drinking water compliance information readily available to the public is another aspect of improving compliance at public water systems. The annual public water systems compliance reports prepared by States and by EPA are just one aspect of this effort. The public will also receive Consumer Confidence Reports annually from their community water systems and, if necessary, more timely notice of MCL or treatment technique violations as required by the Public Notification Rule. The three Internet sites mentioned earlier in this report provide public access to a wealth of drinking water compliance information. Putting this information on display both informs the public and provides an incentive for the operators of water systems and for drinking water regulators to achieve and maintain the high levels of compliance that the public demands.

Consistently achieving a high level of compliance can be a greater challenge for small public water systems that may lack the financial, technical, or managerial resources available to medium and large systems. By developing new compliance assistance tools created by the 1996 Amendments, EPA and the States are helping small communities overcome these impediments. Among the important new developments: a list of approved small system compliance technologies that allows more flexibility in treating drinking water, and revised variance and exemption rules that allow EPA and States to provide small systems some flexibility in how and when they will meet drinking water requirements.

With capacity development programs, particularly those tied to the Drinking Water State Revolving Fund, EPA and the States are helping small systems overcome the root causes of noncompliance—the often intractable problems of deficient infrastructure, untrained operators, and inadequate financing. Financial assistance from this fund will improve compliance at the 46,473 small community water systems and at the 115,602 non-community water systems, 99.7% of which serve fewer than 3,300 people. Congress

appropriated \$2.8 billion through Fiscal year 1999 for the Drinking Water State Revolving Fund this purpose. Diligent efforts by the States ensured that every State had an approved program for implementing its Drinking Water State Revolving Fund in place before the end of 1998 and had begun receiving capitalization grants.

Enforcement will always be part of a credible regulatory program. State and Federal enforcement actions against noncomplying public water systems both discourage violations and level the playing field for those systems that devote resources to remaining in compliance. Although public water systems of all types need to know that violations can and will result in enforcement actions, EPA and the States will target particular kinds of systems and violations posing the greatest risks to protect public health. Required source water assessments are a potential tool to help EPA and its partners identify and evaluate threats to the sources of drinking water and address them with appropriate compliance and enforcement efforts.

EPA is meeting with States and other drinking water stakeholders seeking input that will help the Agency formulate the most effective strategy for implementing the recommendations in its first two annual reports. EPA will refine its recommendations in future annual reports by integrating the data improvements that result from the ongoing data reliability efforts discussed below. EPA plans to incorporate the resulting implementation commitments into its Memoranda of Agreement (MOA) with EPA Regions, and has identified the control of microbial contamination as priority across all enforcement programs. The Regions can in turn use these priorities when negotiating Performance Partnership Agreements with their States.

## **2. ENFORCEMENT AND COMPLIANCE ASSISTANCE RECOMMENDATIONS REGARDING PUBLIC WATER SYSTEMS ON INDIAN RESERVATIONS**

- **EPA should take action to improve compliance of Public Water Systems on Indian reservations.**

- **EPA should continue to improve its collection and maintenance of compliance data for Public Water Systems on Indian reservations.**

Many of the activities described in the preceding section will also apply to the implementation of the recommendations regarding public water systems on Indian reservations, especially those activities that focus on small systems and developing small system capacity, as 75% of the public water systems on Indian reservations serve fewer than 500 people. A significant source of building capacity is through grants provided under the General Assistance Program.

EPA Regional offices provide additional support to Tribes in the form of circuit rider programs to help Tribes develop self-supporting PWSs on Indian reservations, free laboratory analysis of samples collected during monitoring, and grants to address operator training and wellhead protection. Rather than responding to violations at tribal public water systems with formal enforcement actions, EPA focuses on informal enforcement responses and compliance assistance to return these systems to compliance. EPA's informal enforcement responses typically include telephone calls and site visits to counsel system operators, compliance letters or warning letters, and informal notices of violations.

The 1997 EPA Drinking Water Infrastructure Needs Survey highlighted the needs for capital improvements for public water systems on Indian Reservations. Each year 1.5% of the appropriation for the national Drinking Water State Revolving Fund is set aside for grants to improve infrastructure for water systems on Indian reservations and in Alaska Native Villages. In 1997, that set-aside was \$19.25 million. Inadequate infrastructure is one of the major reasons public water systems on Indian reservations fail to meet SDWA requirements.

In Fiscal Year 1997, EPA used \$2.7 million, 3% of all Federal funding to implement the Public Water System Supervision (PWSS) program, to implement the PWSS program on tribal lands. In Fiscal Years 1998 and 1999, EPA received an additional \$3.8 million to be used for Tribal compliance assistance activities such as: Public

Water System Supervision program primacy workshops, capacity development projects, source water protection - EPA is providing funds for Tribal source water protection projects, and operator training and certification.

To ensure that any unique needs of public water systems on Indian reservations are met, EPA is seeking input from Tribal stakeholders as the Agency explores the most effective options for implementing the recommendations of EPA's annual reports. EPA has already identified problems related to the collection and entry into SDWIS/FED of information on public water systems on Indian reservations. Activities to address those problems and ensure the completeness and reliability of this data, although focused within EPA, will be similar to those described in the next section. Activities to implement the enforcement and compliance recommendations will be incorporated into Memoranda of Agreement with EPA Regions that exercise primary enforcement authority over tribal lands.

### **3. RECOMMENDATION CONCERNING DATA QUALITY**

- EPA and drinking water stakeholders should work cooperatively to improve the quality of compliance data.

This is the recommendation on which EPA has focused the most effort since the issuance of the 1996 National Public Water Systems Report in September of 1998. During preparation of that report, EPA noted that compliance data in many individual state reports differed from the data reported to SDWIS/FED. In fall of 1998, EPA held a series of stakeholder meetings that help identify a number of interim and long-term goals. EPA and its stakeholders have agreed that the data quality goal should be 100% complete, accurate, and timely data which portray the data submitted by public water systems and primacy agencies, consistent with SDWA reporting requirements. This goal will be advanced through interim milestones, which can be set once the current level of quality is determined.

- **Improve the display of drinking water data in Envirofacts:** EPA and its stakeholders have agreed to a number of changes to improve the way drinking water data are portrayed in Envirofacts (an EPA web site where the public can access information about the performance of a public water system). Changes which need to be made include: displaying only data subsequent to January 1, 1993 since these data are more accurate than older data, providing better description of the data and explanations of violations, listing MCL/treatment technique violations separately from monitoring violations, developing a better way to link violation and follow-up actions, and revising the compliance period date to indicate more accurately the length of the violation.
- **Characterize and quantify the data quality problem:** EPA and its stakeholders together are better defining the data quality problem. Activities include comparing the data submitted by States in their Annual Compliance Reports with the data they report to SDWIS/FED, comparing the data in SDWIS/FED to the data in Envirofacts, asking public water systems to identify errors in the SDWIS/FED data displayed in Envirofacts, analyzing data verification reports to identify generic problems and the extent of their occurrence, analyzing quarterly SDWIS/FED production reports to identify data which are rejected, and analyzing state management structures to determine if there is a relationship between management structure and data quality.
- **Take interim steps to improve data quality:** While the characterization and quantification effort is underway, EPA and its stakeholders agreed that there are numerous activities which could be undertaken to improve the quality of data currently in SDWIS/FED and newly entering data. Activities to improve the quality of data feeding into

SDWIS/FED include: developing a mechanism for utilities to review data before states send data to SDWIS/FED; streamlining reporting requirements for upcoming rules; accelerating the implementation of electronic reporting; conducting more frequent data verifications and following up on their recommendations; involving data management staff in rule development, working with state and regional management structures from the perspective of maximizing data quality; and improving record keeping and reporting of compliance information on Indian lands. Activities to improve quality of data in SDWIS/FED include correcting software bugs, accelerating development and implementation of SDWIS/STATE, providing additional error check routines in SDWIS/FED, improving existing data entry tools, ensuring that quarterly submissions are reviewed and errors are corrected, issuing quality assurance manuals for Regions and States, and facilitating data retrieval.

- **Make long-term commitment to achieve and maintain data quality goals:** Upon completion of the characterization and quantification effort, EPA and its partners will take the actions identified as necessary to ensure that the data quality goal that the data in SDWIS/FED achieves 100% completeness, accuracy, and timeliness in portraying the data submitted by public water systems and primary agencies. EPA and its partners will also take the actions necessary to maintain those levels.

This second annual national report shows that there remains a need for improvements in both compliance and reporting of drinking water data. Compliance with drinking water regulations is one of the primary goals for EPA under the Government Performance and Results Act. As described above, EPA has already initiated activities to address the findings and recommendations of the two reports.



# Background

## BACKGROUND

This section provides background information on the requirements of the Safe Drinking Water Act (SDWA). SDWA applies to all Public Water Systems (PWS), whether the PWS is under the jurisdiction of a State, territory or commonwealth (collectively referred to as "States"), located on an Indian reservation, or located in a State that defers to EPA's exercise of primary enforcement jurisdiction.

## STATUTORY REQUIREMENTS

The Safe Drinking Water Act (SDWA) Amendments of 1996 (PL 104-182) made fundamental changes in the nature of the drinking water program at the Federal, State, Tribal and local levels. This report is the second prepared to meet one of these new requirements. The specific requirements of Section 1414(c)(3) are:

- States with primary enforcement responsibility (primacy) must prepare and submit to EPA an annual report on PWS violations. States were required to submit their first report by January 1, 1998, and annually thereafter. These reports must address violations of national primary drinking water regulations with respect to maximum contaminant levels (MCLs), treatment requirements, significant monitoring requirements, and variances and exemptions. By agreement with EPA, States submitted their second annual reports in July of 1998, and will submit subsequent reports in July of each year.
- States with primacy must publish and distribute summaries of their reports and indicate where the full report is available for review.

- EPA must summarize and evaluate the States' reports in an annual national report, of which this is the second. This report must make recommendations concerning the resources needed to improve compliance with SDWA. The report must also address PWS compliance on Indian reservations, enforcement activities undertaken, and financial assistance provided by EPA to Indian reservations.

In addition to requiring State and national compliance reports, the Amendments include two other provisions designed to give consumers more information about the quality of their drinking water. These are:

- A requirement that community water systems issue annual Consumer Confidence Reports that contain information on the source of the water supply, the levels of detected contaminants found in drinking water, information on the health effects of contaminants found in violation of national standards, and information on unregulated contaminants.
- A provision that improves the procedures for how and when public water systems must notify their customers when drinking water regulations are violated.

The Consumer Confidence Report and the public notification of drinking water violations are a consumer's primary source of specific and timely information about the quality of the drinking water from his or her PWS. The annual State and national reports required by Section 1414(c)(3) of the SDWA are intended to provide a summary of PWS performance at the State and national level, respectively.

## NATIONAL AND STATE PUBLIC DRINKING WATER PROGRAMS

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SDWA intends EPA, States, and Tribes to work as partners to ensure delivery of safe drinking water to the public. Any State or Indian Tribe can request responsibility for operation and oversight of the drinking water program within its borders. In order to receive this responsibility (also called primary enforcement authority or primacy), a State or Tribe must adopt regulations that are at least as stringent as Federal regulations and demonstrate its capacity to enforce those regulations and to implement other activities necessary to ensure compliance. In the absence of State or Tribal primacy, EPA assumes responsibility for administering the drinking water program for that area. Of the 56 eligible States (defined to include Commonwealths, Territories, and the District of Columbia), all but Wyoming and the District of Columbia have primacy. EPA Regional Offices administer the drinking water program within these two jurisdictions and on all Tribal lands.

## EPA REGULATIONS

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The Safe Drinking Water Act requires EPA to establish national primary drinking water regulations. These regulations set national limits on contaminant levels in drinking water to ensure that the water is safe for human consumption. These limits, known as MCLs, set the maximum permissible level of a contaminant in water delivered to a user of a PWS. At the Federal level, EPA has set drinking water standards, or MCLs, for more than 80 contaminants. There are MCLs both for contaminants that cause acute health effects after a short-term exposure and for contaminants that can cause chronic health effects after long-term exposure. Additional information on the health effects of specific contaminants can be found on the EPA web site (<http://www.epa.gov/safewater>).

For some regulations, EPA establishes a treatment technique requirement instead of an MCL. Treatment techniques protect drinking water where it is impractical to monitor and determine the level of a particular contaminant. The required treatment techniques are designed to prevent known or anticipated health effects. Treatment technique requirements have been established under both the Surface Water Treatment Rule and the Lead and Copper Rule. A violation of a treatment technique indicates that the system failed to treat the water as specified to minimize the presence of potentially harmful contaminants.

EPA also sets monitoring, reporting, and record keeping requirements that PWSs must follow. A monitoring or reporting violation can occur when a PWS either fails to take the required number of samples or perform a required analysis, or fails to report the results of an analysis performed in a timely manner or as required by law. SDWA requires States to report only significant monitoring and reporting violations in their annual PWS compliance reports. A significant monitoring and reporting violation occurs when a PWS collects none of the samples or submits none of the reports required by a particular regulatory provision. A significant monitoring and reporting violation can also occur if a PWS collects less than 90% of the samples or submits less than 90% of the reports required by the Surface Water Treatment Rule. Appendix A contains additional information about the definition and application of significant monitoring and reporting violations.

PWSs are required to report all monitoring results to the primary enforcement authority. States with primacy, or EPA where it administers the program, analyze the monitoring results, determine compliance, and report violations to EPA on a quarterly basis. EPA maintains records of these violations in the national Safe Drinking Water Information System (SDWIS/FED). Because SDWIS/FED is an exceptions-based system, it records only violations or instances of non-compliance. SDWIS/FED does not record PWS monitoring results that demonstrate compliance.

**ACUTE contaminants: Short-term exposure to unsafe levels may cause immediate adverse health effects.**

**Surface Water Treatment Rule** — All water systems that get their water from a surface water source (a river, lake or reservoir) or a ground water source that comes into contact with a surface water source must disinfect and filter that water. The rule protects people against viruses, *Giardia lamblia*, and other microbial pathogens that can cause vomiting and dysentery.

**Total Coliform Rule** — All water systems must test for the presence of harmless coliform bacteria, as their presence may indicate the presence of other, harmful bacteria. Positive results for total coliform must be followed by tests for other microbial pathogens, such as *E. coli*, that can cause vomiting and dysentery.

**Lead and Copper Rule** — All community and non-transient non-community water systems must control the amount of lead and copper delivered to the tap, usually by maintaining a water pH level that will not leach these metals from pipes. Exposure to high lead levels can delay the physical or mental development of children. Adults may experience kidney problems and elevated blood pressure. Short-term exposure to high levels of copper may produce gastrointestinal distress, while extended exposure can result in damage to the liver or kidneys.

**Nitrates/Nitrites** — All water systems must test for these contaminants that can diminish the blood's capacity to carry oxygen. High levels of nitrates in drinking water are of particular concern for infants under the age of six months.

**CHRONIC contaminants: May cause adverse health effects if ingested at unsafe levels over many years.**

**Radionuclides** — All community water systems must limit the levels of radioactive particles in drinking water to reduce the risk of cancer.

**Organic Chemicals** — All community water systems must limit the levels of these contaminants (usually solvents or pesticides) in drinking water to reduce the risk of cancer and other adverse health effects.

**Inorganic Chemicals** — All community and non-transient non-community water systems must limit the levels of these substances (e.g., asbestos and cyanide) in drinking water to reduce the risk of cancer and other adverse health effects.

**Total Trihalomethanes** — All large community water systems must limit the levels of these by-products of disinfection in drinking water to reduce the risk of cancer.

States with primacy, or EPA where it administers the program, may grant a PWS a variance or exemption from national primary drinking water standards, provided that the terms of the variance or exemption adequately protect public health. As provided by SDWA, variances are available to PWSs that cannot comply with national primary drinking water regulations (due to poor source water quality, or, in the case of small systems, inadequate financial resources). Variances generally allow a PWS to comply with less stringent, but still protective standards based on a specific EPA-approved technology available to the system. An exemption allows a PWS with compelling circumstances (including economic considerations) additional time to achieve compliance with applicable SDWA requirements. An exemption is limited to three years, although extensions of up to six additional years are available to very small PWS under certain defined conditions.

## PUBLIC WATER SYSTEMS

The SDWA requirements described above apply to public water systems (PWSs). A PWS is defined as a system that has at least 15 service connections or serves an average of at least 25 people for at least 60 days per year.

### There are three types of PWSs:

**Community systems** serve at least 25 people year-round in their primary residences. Community water systems made up less than a third of all PWSs, but served more than 91% of the population served by PWSs.

**Non-transient Non-community systems** serve at least 25 of the same persons for more than six months in a year (e.g., schools or factories that have their own water source).

**Transient Non-community systems** do not serve at least 25 of the same persons for more than six months in a year (e.g., campgrounds, highway rest stops that have their own water source).

**TABLE 1: PUBLIC WATER SYSTEM INVENTORY IN CALENDAR YEAR 1997**

Water Source	Community Water Systems (CWS)		Non-transient Non-community Water Systems (NTNCWS)		Transient Non-community Water Systems (TNCWS)	
	Number of Systems	Population Served (millions)	Number of Systems	Population Served (millions)	Number of Systems	Population Served (millions)
Surface	10,394	167.5	754	0.8	1980	0.83
Ground	43,973	85.0	19,501	5.5	93,774	15.9
Total	54,367	252.5	20,255	6.2	95,754	16.8
Percent of Total PWSs	32%	*	12%	*	56.2%	*

\* Populations for all three categories are not totaled, as many people consume water from more than one category of water system.

Source: EPA's Safe Drinking Water Information System

In 1997, there were 170,376 public water systems. Table 1 presents a breakdown of these systems by type:

- **Community water systems:** 54,367 systems serving 252.4 million people.
- **Non-transient non-community water systems:** 20,255 systems serving 6.2 million people.
- **Transient non-community water systems:** 95,754 systems serving 16.8 million people.

PWSs obtain their water from:

- Surface water sources which include rivers, lakes, and reservoirs.
- Ground water sources that are supplied from wells drilled into underground aquifers.

Some PWSs obtain their water from a combination of the two types of sources or purchase their water from another PWS. In 1997, surface water served as the source for approximately 8% of the PWSs serving approximately 61% of the total population served by PWSs (Table 2). Ground water served as a source for approximately 92% of the PWSs, serving approximately 39% of the population served by PWSs.

Each of the three types of public water systems is regulated differently. Generally speaking, community water systems must comply with all regulations. Transient systems do not have to comply with the regulations for contaminants that cause chronic health effects to occur. Table 2 provides a summary of which drinking water regulations apply to each category of PWS.

PWSs can also be classified according to the size of the population that is being served. EPA frequently analyzes compliance trends based on three PWS size categories:

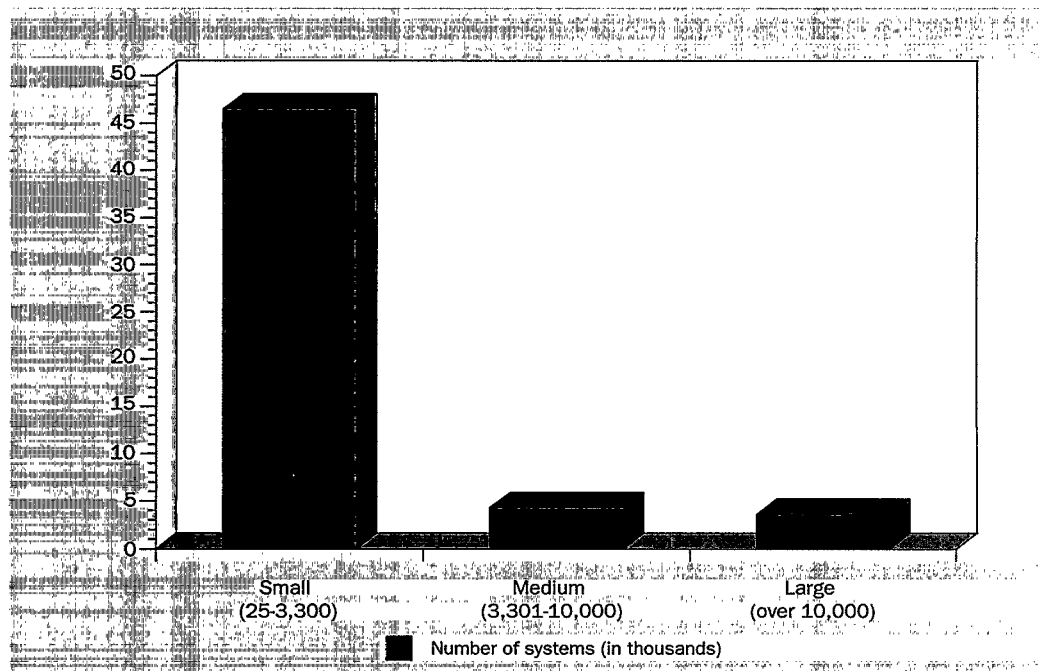
- **Small systems:** serve 25 to 3,300 persons
- **Medium systems:** serve 3,301 to 10,000 persons
- **Large systems:** serve more than 10,000 persons

The number of community water systems in each size classification in 1997 are shown in Figure 1. The total population served by community water systems in each size classification is shown in Figure 2. These figures illustrate that while most community water systems (more than 95%) are small, nearly four out of every five Americans receive their drinking water from one of the relatively few large systems.

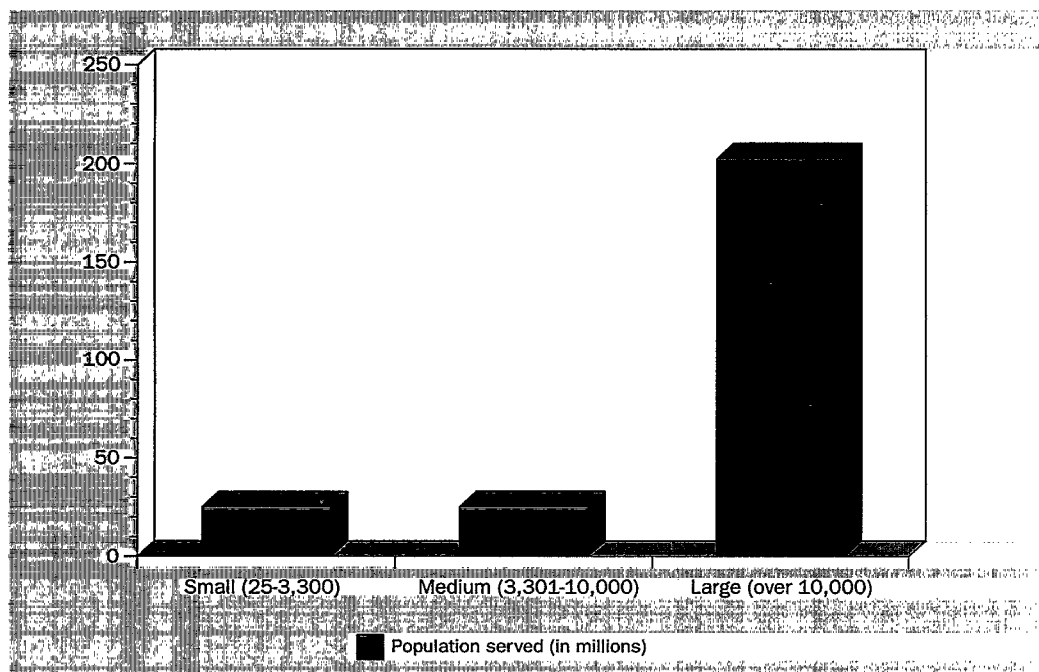
**TABLE 2: SUMMARY OF DRINKING WATER REGULATIONS FOR PWSs**

Applicability of Current Regulations			
Contaminant/Rule	Community Water Systems	Non-transient Non-community Water Systems	Transient Non-community Water Systems
<b>Organic Contaminants</b>	All	All	Some (Only epichlorohydrin and acrylamide)
<b>Total Trihalomethanes (TTHM)</b>	Some (Only systems serving more than 10,000)	None	None
<b>Inorganic Contaminants</b>	All	Some (All except arsenic and fluoride)	None
<b>Nitrate and Nitrite</b>	All	All	All
<b>Radionuclides</b>	All	None	None
<b>Total Coliform</b>	All	All	All
<b>Surface Water Treatment</b>	Some (Only PWSs using surface water sources or ground water sources under the direct influence of surface water)	Some (Only PWSs using surface water sources or ground water sources under the direct influence of surface water)	Some (Only PWSs using surface water sources or ground water sources under the direct influence of surface water)
<b>Lead and Copper</b>	All	All	None

**FIGURE 1: NUMBER OF COMMUNITY WATER SYSTEMS (by system size)**



**FIGURE 2: POPULATION SERVED (by system size)**



# Public Water Systems in States

## PWS COMPLIANCE DATA AND ANALYSIS

EPA has compiled and reviewed 1997 violations data available from the annual State Public Water Systems Reports and national public water system (PWS) data from EPA's SDWIS/FED database. The national analysis uses SDWIS/FED data rather than data from the State reports, primarily because EPA, in order to conduct analyses at the national level, used information reported in a consistent database. Summaries of data from the State's reports appear in Appendix B. In developing this report, EPA and its partners have realized that we have questions about the quality of some of the data contained in SDWIS/FED.

Nonetheless, we believe that when the data are viewed in the aggregate, it presents a reliable overall compliance picture of PWSs nationwide. A discussion of data quality concerns and actions recommended to address these concerns are presented later in this section.

## DATA ANALYSIS

In the analysis that follows, compliance data will be presented by type of water system to prevent double counting the population when presenting the number of people served by systems reporting a violation. One person

could drink water from three different sources during a day by drinking water from her residence (served by a community water system); her school (served by a non-transient non-community water system), and at a campground or highway rest stop (served by a transient non-community water system). Including that same person three times in the population figures would be misleading.

This report looks at the compliance status of all types of public water systems. However, the report focuses particular attention on community water systems because those systems are where the majority of the population gets most of its drinking water.

Within the limitations of data quality, as discussed in this report, some of the most notable findings are:

**The nation's drinking water is generally safe—at 79% of all public water systems, there were neither reported violations of health-based standards nor significant violations of monitoring and reporting requirements.**

- 77% of community water systems had no reported violations of MCL or treatment technique requirements and no significant violations of monitoring and reporting requirements.
- 76% of non-transient non-community water systems had no reported violations of MCL or treatment technique requirements and no significant violations of monitoring and reporting requirements.
- 81% of transient non-community water systems had no reported violations of MCL or treatment technique requirements and no significant violations of monitoring and reporting requirements.

**In 1997, there were 170,376 public water systems in America.**

**54,367 community water systems (32%)** served more than 252 million people.

**20,255 non-transient non-community systems (12%)** served more than 6 million people.

**95,754 transient non-community systems (56%)** served almost 17 million people.

**95% of America's public water systems reported no violations of any health-based drinking water standards.**

- 92% of community water systems had no reported MCL or treatment technique violations. Most of the MCL or treatment technique violations that were reported were of the Total Coliform Rule or the Surface Water Treatment Rule - rules that protect against microbiological contamination of drinking water.
- 95% of non-transient non-community water systems had no reported MCL or treatment technique violations. Most of the MCL or treatment technique violations that were reported were of the Total Coliform Rule.
- 96% of transient non-community water systems had no reported MCL or treatment technique violations. As with non-transient non-community water systems, most of the MCL or treatment technique violations that were reported were of the Total Coliform Rule.

**Most violations were significant violations of monitoring and reporting requirements rather than violations of health-based standards.**

- In 1997, there were 97,661 MCL, treatment technique, and significant monitoring and reporting violations reported by 35,436 of the 170,376 public water systems in the nation.
- 15,054 (15%) were violations of health-based MCL or treatment technique requirements.
- 82,607 (85%) were significant violations of monitoring and reporting requirements.

**Even so, 83% of all public water systems had no significant violations of monitoring and reporting requirements.**

- 83% of community water systems had no significant violations of monitoring and reporting requirements.

- 79% of non-transient non-community water systems had no reported significant violations of monitoring and reporting requirements.
- 83% of transient non-community water systems had no violations of significant monitoring and reporting requirements.

**Although only 2% of public water systems served more than 10,000 people, but violations of health-based standards at a few large systems potentially affected large populations.**

- 4% of the public water systems that reported MCL or treatment technique violations served more than 10,000 people. Violations of health-based standards at these 375 large systems potentially affected more than 26 million people.
- All but two of the large systems reporting MCL or treatment technique violations were community water systems. The health-based standards they most frequently violated were the MCL or treatment technique requirements for the Total Coliform Rule and the Surface Water Treatment Rule.

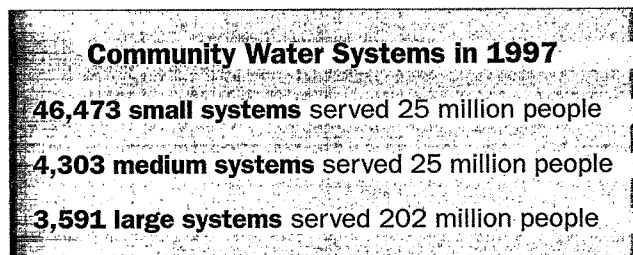
**95% of all public water systems served fewer than 3,300 people. Most violations of drinking water standards occurred at a small system**

- 91% of the public water systems that reported MCL or treatment technique violations served 3,300 or fewer people. Violations of health-based standards at these 8,477 small systems had the potential to affect 2.7 million people.
- 98% of significant monitoring and reporting violations at public water systems occurred at systems that served 3,300 or fewer people. These 28,396 small systems with a significant monitoring and reporting violation served 5.6 million people.



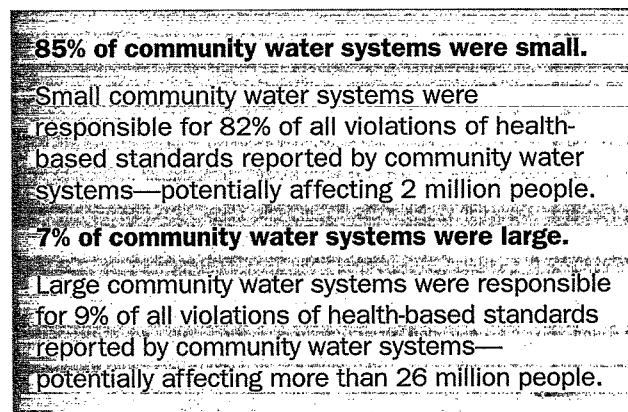
## COMMUNITY WATER SYSTEMS

In 1997, there were 54,367 community water systems in America that together served a population of approximately 252.5 million people. The remaining population received residential water from individual wells or from water systems that were too small to meet the definition of a Federal public water system (i.e. the system served fewer than 25 people).



Figures 3 - 6 show the percentages of small, medium, and large community water systems reporting treatment technique and significant monitoring and reporting violations of the Surface Water Treatment Rule, Lead and Copper Rule, chemical cluster (incorporating violations of the organics, inorganics, nitrates/nitrites, radionuclides, and total trihalomethanes regulations), and Total Coliform Rule, respectively. These figures also display the absolute numbers of violations for each size category, indicating that small community water systems were responsible for most of the reported violations. However, a

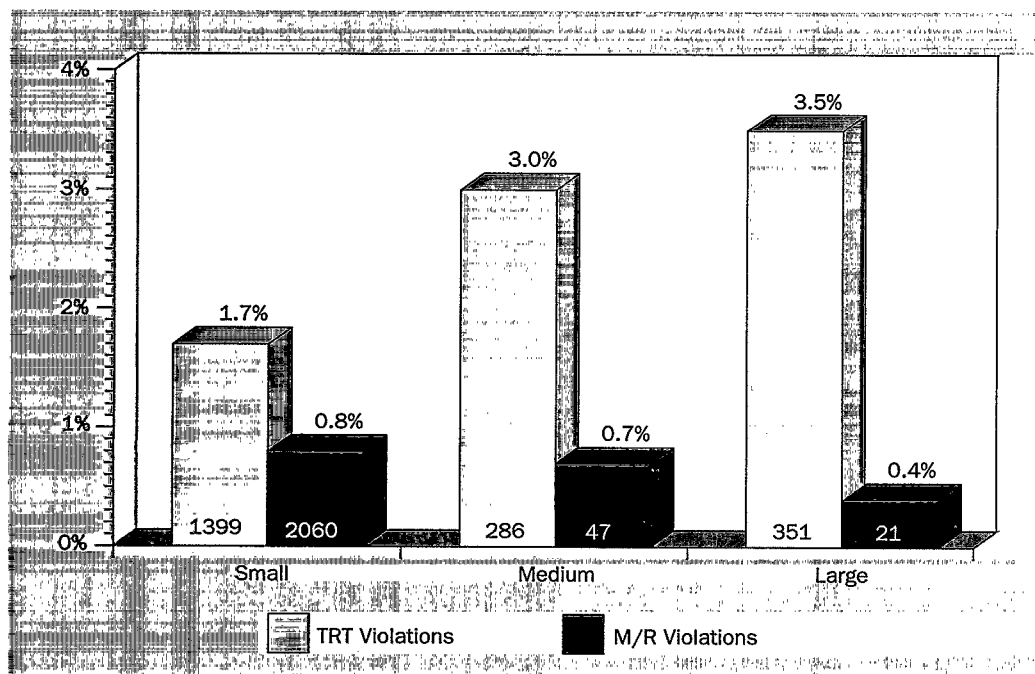
comparison with Figures 7 - 9, which show the population potentially affected by the reported violations, demonstrates that most people potentially affected by violations received water from a large community water system.



Figures 3 - 5 demonstrate that compliance rates for community water systems are better than 95% for most drinking water requirements. In all size categories, fewer than 2% of community water systems reported MCL or treatment technique violations of the Lead and Copper Rule or the chemical cluster, and fewer than 4% violated the treatment technique requirements of the Surface Water Treatment Rule. In all size categories, fewer than five percent of community water systems were responsible for significant violations of monitoring and reporting provisions of the Surface Water Treatment Rule, the Lead and Copper Rule, or the chemical cluster.

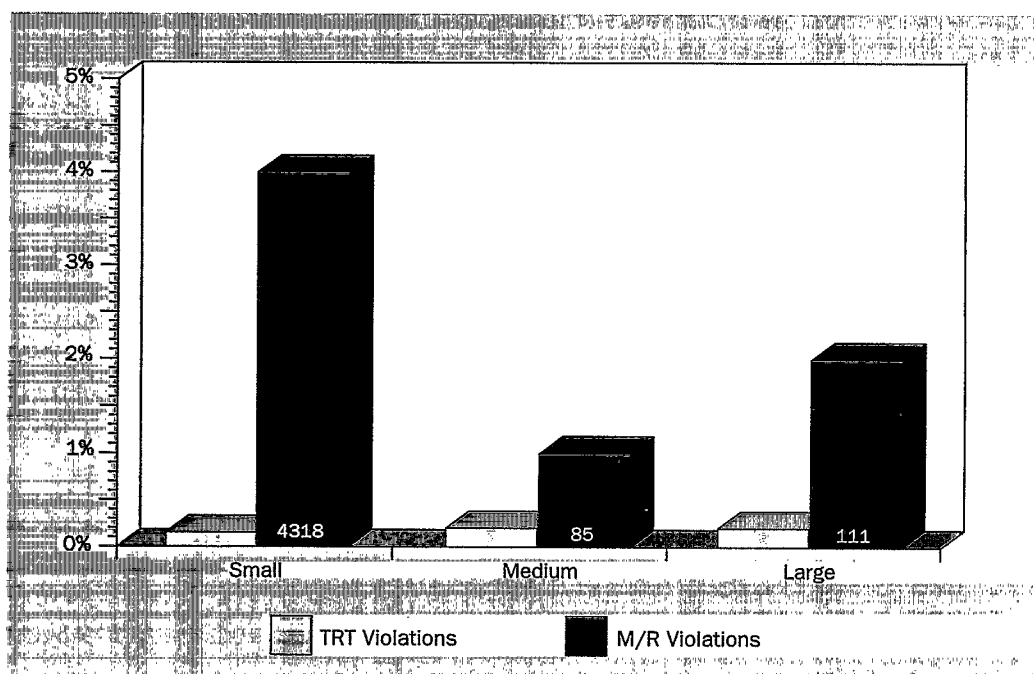
**FIGURE 3: PERCENTAGE OF COMMUNITY WATER SYSTEMS IN VIOLATION OF THE SWTR**

(Note: The absolute number presented on the bars represents the total number of violations for the systems.)



**FIGURE 4: PERCENTAGE OF COMMUNITY WATER SYSTEMS IN VIOLATION OF THE LCR**

(Note: The absolute number presented on the bars represents the total number of violations for the systems.)



## FIGURE 5: PERCENTAGE OF COMMUNITY WATER SYSTEMS WITH CHEMICAL VIOLATIONS

(Note: The absolute number presented on the bars represents the total number of violations for the systems.)

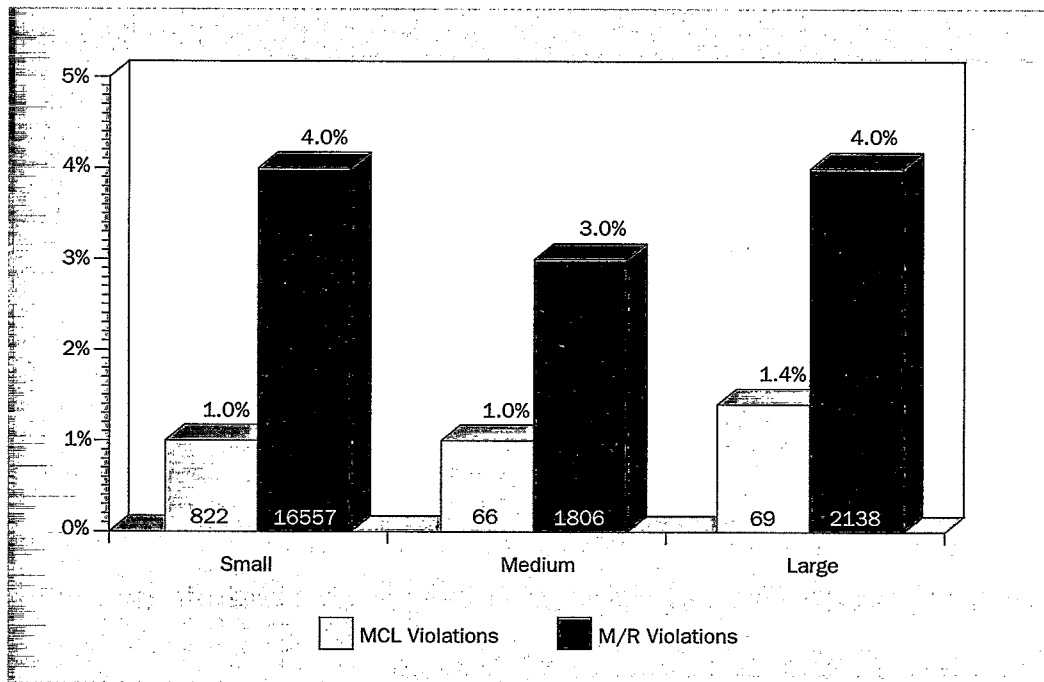
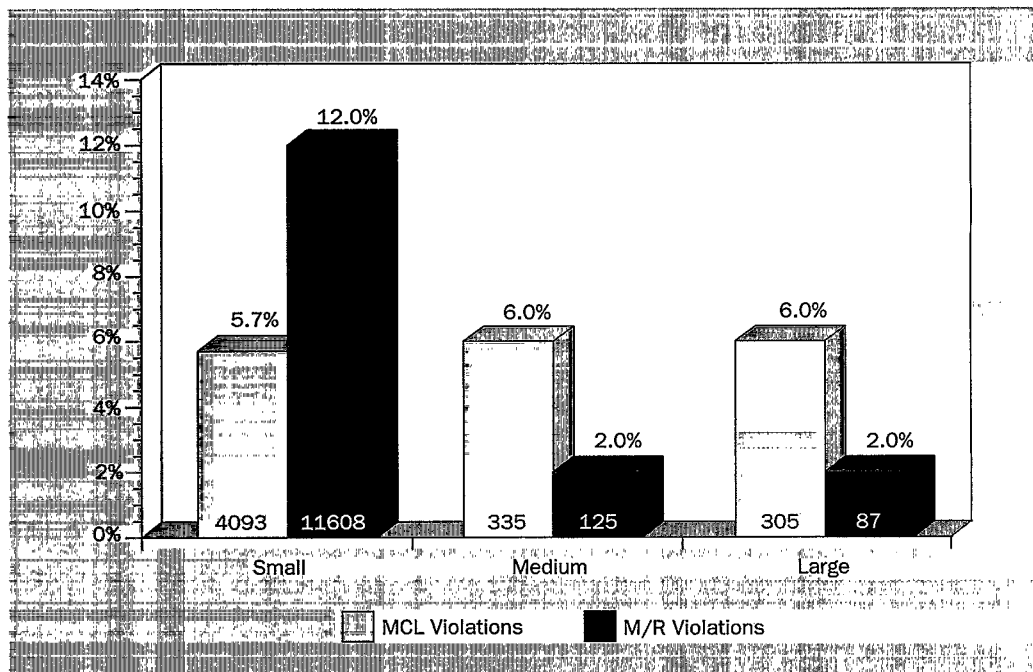


Figure 6 reveals that the Total Coliform Rule is the rule violated by the highest percentage of community water systems, with 5% or more of community water systems in all size categories reporting MCL violations. Total Coliform Rule MCL violations were reported by 5.7% of small community water systems, and by 6% of both medium and large community water systems. Significant violations of Total Coliform Rule monitoring and reporting requirements were reported at slightly more than 12% of small community water systems, but at only 2% of medium and large community water systems.

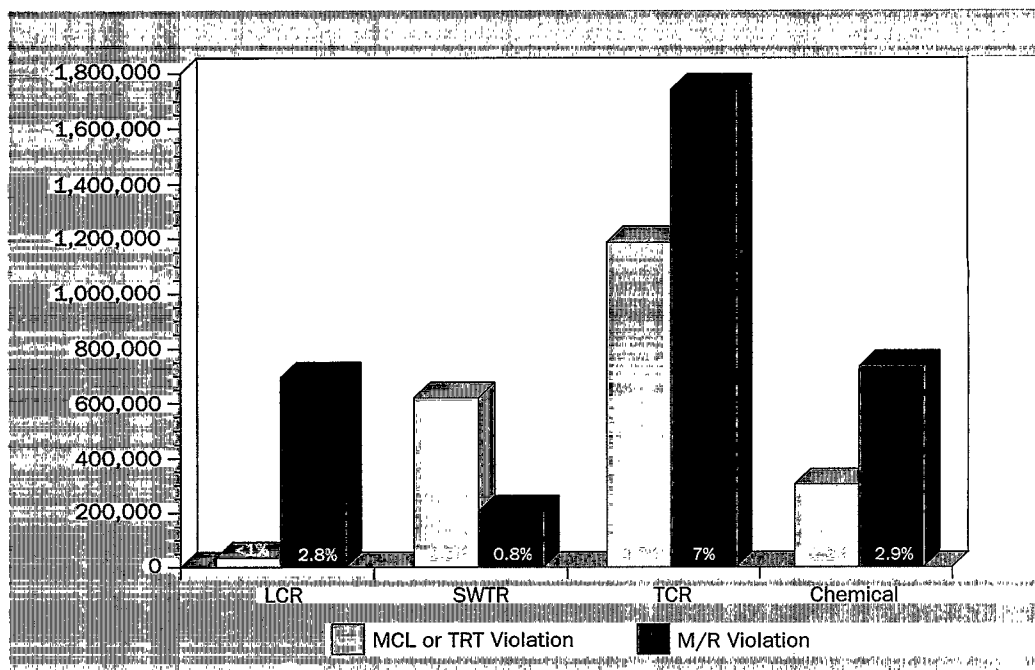
Figures 7 - 9, which display the population served by violating community water systems, indicate that at small or medium community water systems, reported violations of the Total Coliform Rule potentially affected more people than MCL or treatment technique violations of all the other rules combined. Figures 7 and 8 show that 4.7% of the population served by small community water systems and 6.6% of the population served by medium systems were served by systems that reported violations of the Total Coliform Rule MCL. In 1997, the population served by small and medium systems in violation of the Total Coliform Rule MCL was about 2.8 million people.

**FIGURE 6: PERCENTAGE OF COMMUNITY WATER SYSTEMS IN VIOLATION OF THE TCR**

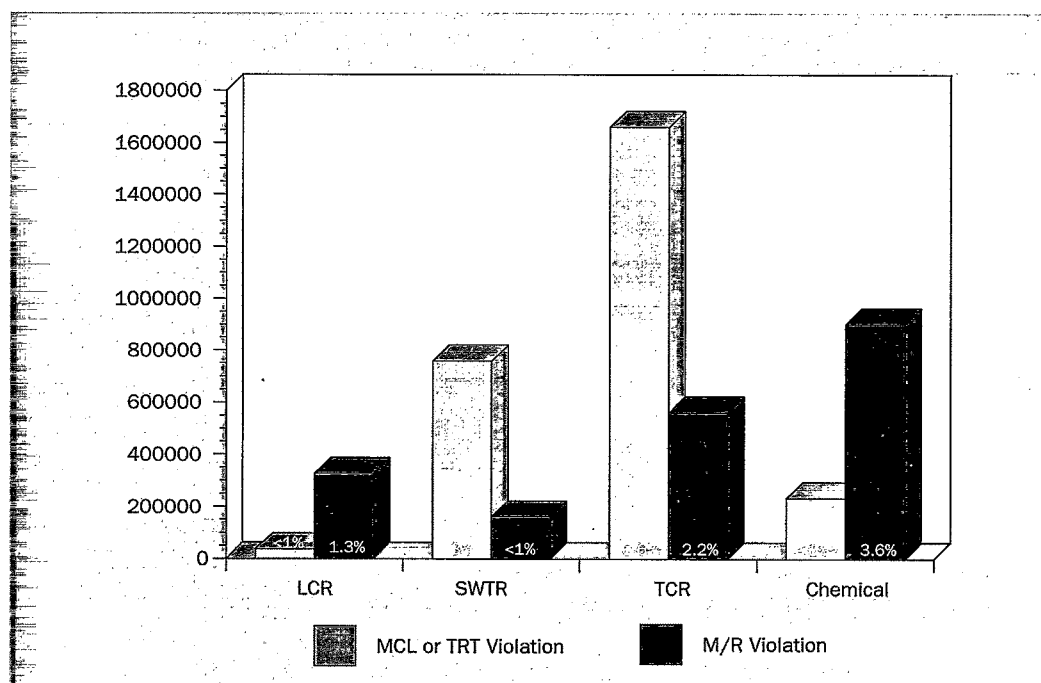
(Note: The absolute number presented on the bars represents the total number of violations for the systems.)



**FIGURE 7: POPULATION AFFECTED BY VIOLATIONS IN SMALL COMMUNITY WATER SYSTEMS**



**FIGURE 8: POPULATION AFFECTED BY VIOLATIONS IN MEDIUM COMMUNITY WATER SYSTEMS**



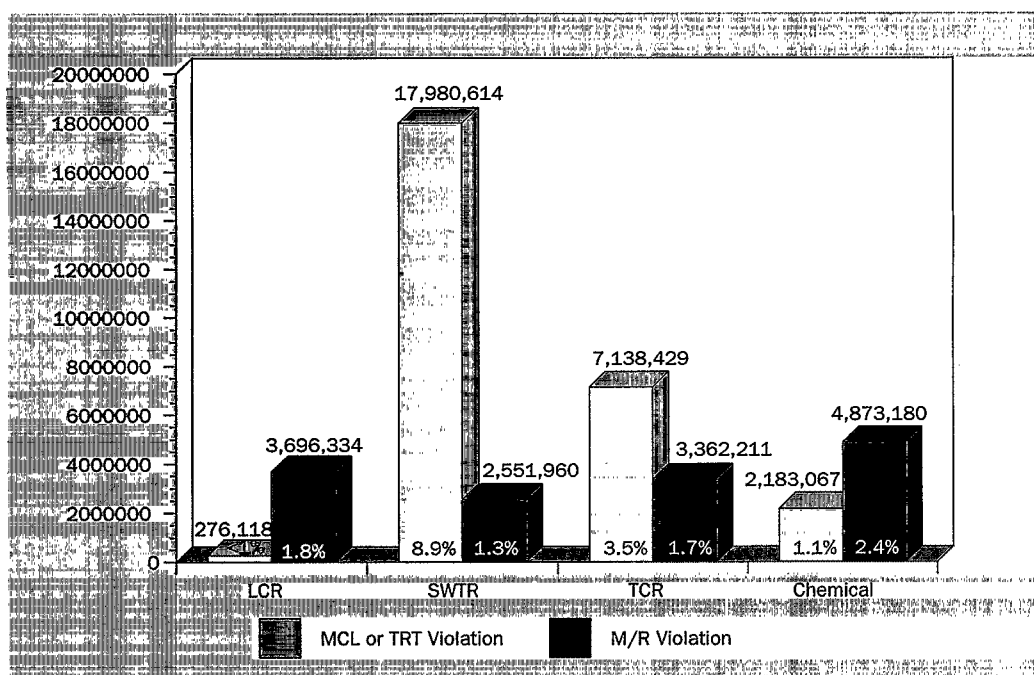
As shown in Figure 9, simply by virtue of large community water systems' size, violations at these systems can potentially affect large populations. In 1997, more than 7 million people were served water by large systems that reported MCL violations of the Total Coliform Rule. Most of those 7 million Americans received water from a handful of very large systems.

Similarly, 93% of the more than 19 million Americans whose community water system reported a violation of the Surface Water Treatment Rule treatment technique requirements received their drinking water from a large community water system. However, few small and medium community water systems rely of surface water as the source of their drinking water, and most community water systems subject to the Surface Water Treatment Rule are large.

Because of the violations at our largest community water systems have the potential

to affect large populations, EPA's regulations sometimes impose additional requirements on these systems. The Lead and Copper Rule required all large systems to install corrosion control. Small and medium systems are required to install corrosion control only after the level of lead or copper in their water is shown to exceed an action level. The Lead and Copper Rule gave large systems less time than small and medium systems to meet its requirements. The Surface Water Treatment Rule focused on a number of the largest water systems in America requiring these systems to install filtration by 1993. For a variety of reasons, including planning, design and construction of the complex infrastructure needed to install filtration, this has taken longer than anticipated. As a result, violations of the health-based standards of either rule were more likely to occur at large community water systems, and the populations potentially affected by those violations were inevitably large.

**FIGURE 9: POPULATION AFFECTED BY VIOLATIONS IN LARGE COMMUNITY WATER SYSTEMS**



## NON-COMMUNITY WATER SYSTEMS

Non-community water systems are classified as either non-transient non-community systems or transient non-community systems.

### 1. NON-TRANSIENT NON-COMMUNITY WATER SYSTEMS

Approximately 76% of all non-transient non-community water systems reported no MCL or treatment technique violations and no significant monitoring and reporting violations in 1997. The vast majority (95%) of the 20,255 non-transient non-community water systems operating during 1997 reported no violations of health-based standards. More than 79% had no significant violation of monitoring and reporting requirements. As is apparent in Figure 10, most of the violations that were reported were significant violations of monitoring and reporting requirements. If the compliance rate for monitoring and reporting were to improve, it is possible that more MCL violations would be detected and the

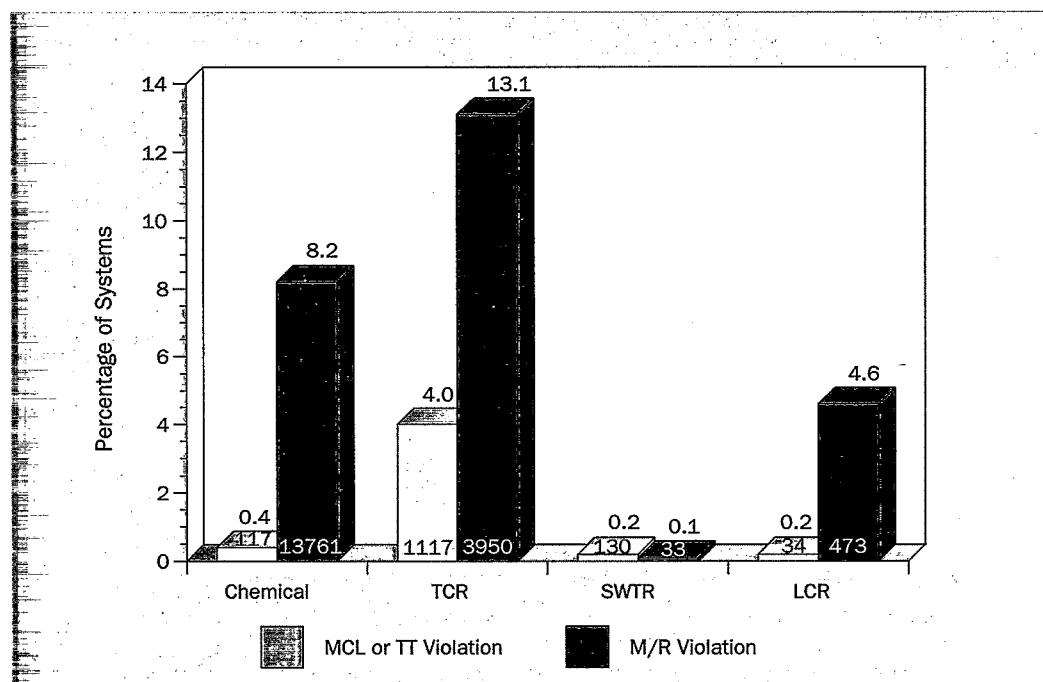
percentage of non-transient non-community systems that report violations of health-based standards would increase.

General findings for non-transient non-community water systems are:

- Of the MCL and treatment technique requirements violations reported, more systems violated the Total Coliform Rule than the other rules, with nearly 4% of the systems reporting an MCL violation of the Total Coliform Rule.
- Significant violations of the monitoring and reporting requirements were more common at non-transient non-community water systems than at community water systems, with 13% of non-transient non-community systems responsible for significant violations of the monitoring and reporting requirements of the Total Coliform Rule, more than 8% responsible for significant violations of monitoring and reporting requirements of a chemical

## FIGURE 10: PERCENTAGE OF NTNC SYSTEMS WITH VIOLATIONS

(Note: The absolute number presented on the bars represents the total number of violations for the systems.)



standard, and more than 4% responsible for significant violations of monitoring and reporting requirements of the Lead and Copper Rule.

### 2. TRANSIENT NON-COMMUNITY WATER SYSTEMS

Because people served water by transient non-community water systems do not drink the water regularly or for long periods, the nation's 95,754 transient non-community water systems are required to comply with only those standards that protect consumers from acute health effects—the Total Coliform Rule, some of the chemical contaminant standards, and the Surface Water Treatment Rules. Only 2.1% of transient non-community water systems used surface water as a source in 1997, and none reported violations of the Surface Water Treatment Rule.

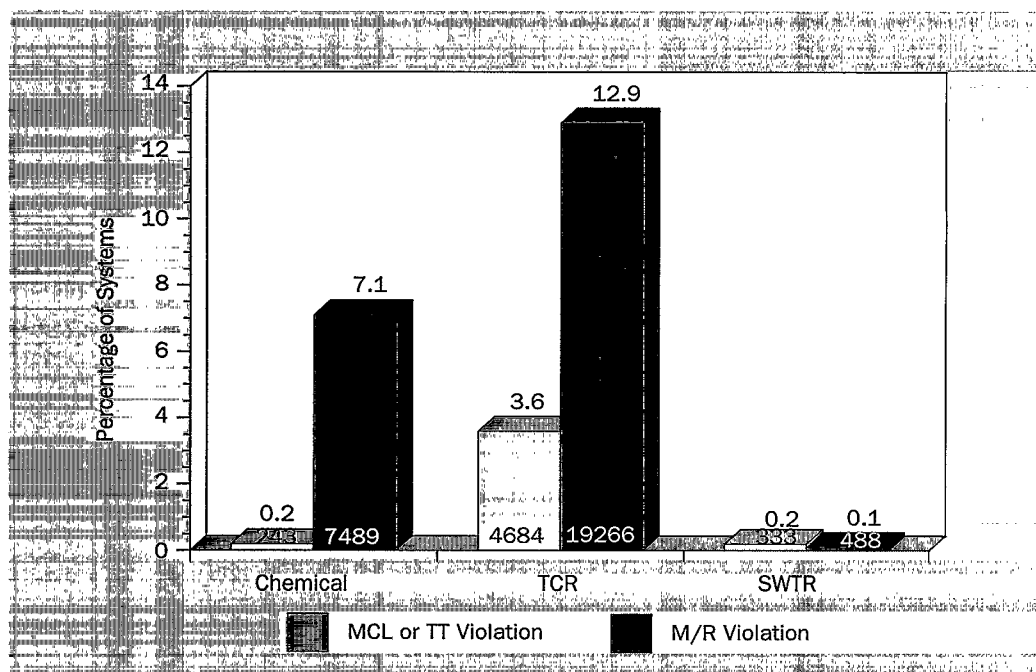
As shown in Figure 11, almost 81% of transient non-community systems reported neither MCL or treatment technique violations, nor significant violations of monitoring and

reporting requirements. 96% reported no violations of MCL or treatment technique requirements, and 83% had no significant violations of monitoring and reporting requirements.

- The health-based standards for the Total Coliform were those most frequently violated by transient non-community systems, 3.6% of which reported a violation of the MCL.
- 7% of transient non-community water systems had a significant violation of the monitoring and reporting requirements of a chemical standard. As with non-transient non-community water systems, improved compliance with monitoring requirements could lead to the detection of more MCL and treatment technique violations, and an increase in the percentage of systems reporting violations of health-based standards.

## FIGURE 11: PERCENTAGE OF TNC SYSTEMS WITH VIOLATIONS

(Note: The absolute number presented on the bars represents the total number of violations for the systems.)



## VARIANCE AND EXEMPTIONS

There are very few PWSs currently operating under a variance or exemption. Neither the State PWS compliance reports for 1997 nor the SDWIS/FED database reported any variance or exemption violations during 1997.

## QUALITY OF DATA

This report used compliance data taken from EPA's national SDWIS/FED database. States are required to submit data to SDWIS/FED quarterly. EPA assesses progress in the implementation of regulations, develops its national enforcement and compliance priorities and strategies, and provides information to the public based, in part, on analysis of the data in SDWIS/FED.

Most States, on the other hand, develop a database system that tracks more information than that contained in SDWIS/FED. State data

systems often track monitoring results, compliance assistance activities, and enforcement actions. Most States used their own data system in developing their State compliance reports.

Because the SDWIS/FED database relies on data provided by the States, one may expect that these numbers should be comparable to those in the States' own data systems. Unfortunately, this was not the case with many States. As with any large, complex database network, there are numerous difficulties in uploading data and correcting identified problems.

Comparison of State and SDWIS/FED data revealed both over and under-reporting by States into SDWIS/FED across all rules, with State data showing more violations than SDWIS/FED on a national basis. State chemical MCL and monitoring and reporting violations were virtually identical to information in SDWIS/FED. The rule with the greatest discrepancy rate was the Lead and Copper Rule. SDWIS/FED contained almost



three times as many Lead and Copper monitoring and reporting violations as the State reports. Most of this discrepancy, however, can be attributed to six States. SDWIS/FED data for Lead and Copper treatment technique violations is less than half of what States reported for these violations.

EPA periodically conducts data verifications (independent, on-site audits of State records) of State programs to ensure that the State is determining compliance in accordance with Federal regulations and to detect differences between data in the State database and SDWIS/FED. Data verifications show larger discrepancies by States in reporting on non-community water systems than for other types, particularly in the area of significant monitoring violations.

There are many reasons for these data discrepancies, including:

- SDWIS/FED is a complex database. Data entry procedures in SDWIS/FED are cumbersome and data retrieval is not user friendly.
- States use different data systems and designs.
- Data management and analysis of SDWIS/FED data is generally a lower priority for some States and Regional Offices. This lack of emphasis frequently leads to insufficient training, poor coordination among program and data managers, and situations where the responsibility for management of data systems does not lie with the people who use and need the data.

EPA is working with the States to improve the reporting system and to reduce data discrepancies to the maximum extent possible. Some of the activities underway are:

- EPA, in cooperation with the States, is developing a State data system known as SDWIS/STATE. It is intended to improve data quality and data transfers between States and EPA. Ten States and four EPA regions currently have SDWIS/ STATE installed. Within the next year, nine more States, two territories, and three more EPA Regions

will be using SDWIS/STATE to transfer data to SDWIS/FED.

- EPA is:
  - Improving data entry by updating and streamlining documentation and training materials.
  - Preparing Quality Assurance manuals for use by States and Regions.
  - Investigating mechanisms for making data retrieval more user friendly. EPA is also using the database to track progress toward meeting performance measures and making SDWIS/FED information publicly available through its web site, Envirofacts. EPA is revising how the data are displayed in Envirofacts to make the data easier to access. As the database is used more, and becomes easier to use, States will have a greater incentive to improve the quality of data in it.
  - Conducting data verifications in many States each year and following up on the results to be sure the recommendations are implemented. One of the components of these verifications is to identify discrepancies between the State system and SDWIS/FED.

## **EVALUATION AND SUMMARY OF STATE REPORTS**

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EPA received 1997 Annual State Public Water System Reports from 51 primacy States, Commonwealths, and Territories. EPA prepared reports for the District of Columbia and Wyoming, and provided data on Indian Tribes, because these areas do not have primary enforcement responsibility for the drinking water program.

This report presents the evaluation of these annual reports in three subsections:

- State enforcement and compliance assistance programs

- Information on the State reports
- State-by-State summaries

## STATE ENFORCEMENT AND COMPLIANCE ASSISTANCE PROGRAMS

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States engage in a variety of activities, including formal enforcement actions, informal actions, and compliance and technical assistance to help PWSs remain in, and return to, compliance. Additionally, SDWA requires that States have operator certification programs that require many PWS operators to be licensed by the appropriate authorities. State enforcement and compliance assistance efforts may include:

- Conducting on-site visits and sanitary surveys at PWSs (i.e., an on-site review of the water sources, facilities, equipment, operations, and maintenance of a PWS to evaluate the adequacy of these elements for producing and distributing safe drinking water)
- Helping systems invest in preventive measures
- Providing financial assistance for system improvements through the Drinking Water State Revolving Fund and other State funding programs
- Reviewing water system plans and specifications
- Conducting training sessions
- Holding public information meetings
- Loaning specialized monitoring equipment
- Publishing informational bulletins and newsletters on training events, etc.

Unless there is an immediate health risk necessitating immediate action, formal enforcement actions may be initiated several months after the violation is detected and reported. The reason for this delay is that,

when appropriate, States commonly undertake a variety of informal actions and compliance assistance measures to try to get PWSs back into compliance as quickly as possible. Informal actions may include the following activities:

- Compliance reminder letters or notices of violations
- Field visits
- Telephone calls

Formal enforcement actions may include the following activities:

- Bilateral compliance agreements
- Citations
- Administrative orders
- Criminal complaints with penalties
- Civil referrals to State Attorneys General or to the Department of Justice
- Emergency orders
- Criminal cases
- Fines or administrative penalties
- Other sanctions such as denying permission for system expansion

In fiscal year 1997, the States issued a total of 913 formal enforcement actions, including 632 administrative orders without penalty, 220 administrative orders with penalty, 60 civil referrals, and 1 criminal referral. During the same period, EPA issued 266 notices of violation, 392 Federal administrative orders, 12 complaints for penalty, and 4 referrals for civil judicial action.

In conclusion, States can choose among a number of formal and informal activities to return violating systems to compliance and ensure that the public has safe drinking water. While EPA did not analyze compliance assistance and enforcement data in its first two national reports, it may do so in future reports. EPA encourages States to include this information in future reports to provide a more complete picture of PWS compliance.

## **INFORMATION ON STATE REPORTS**

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EPA reviewed each State report to determine whether it met the requirements of the 1996 Amendments to SDWA. The contents of the State reports are summarized in Table 4 in Appendix B. The table indicates whether a report was submitted to EPA, whether all required elements of the report were included, and whether the State included a list of PWSs with MCL violations or treatment technique violations. The chart also includes a column indicating if information was provided on the public availability and distribution of State reports. Publication and distribution of summaries of the report and indication of where the full report is available for public review is a statutory requirement of the 1996 SDWA Amendments. This summary chart also indicates whether the State's report included any additional information of interest to the public, such as the number of public water systems in the State, their sizes and types: the size and type of violating systems, and the compliance assistance and enforcement activities undertaken in response to violations.

## **STATE BY STATE SUMMARIES**

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EPA provides a State-by-State summary of information reported in each State report in Appendix B. The standardized format includes an overall summary of the violations data specified in Section 1414 of the 1996 SDWA Amendments (i.e., violations with respect to MCLs, treatment technique violations, significant monitoring and reporting violations, and variances and exemptions). Information on how and where to obtain a copy of each State report has been included on the respective summary chart.

In some instances, the data reported by a State in July of 1998 may not agree with data currently in SDWIS/FED. EPA and the States have been engaged in an ongoing SDWIS/FED data reliability effort that has resulted in the insertion since July of 1998 of updated and corrected information into SDWIS/FED.

These State summaries in Appendix B summarize, but do not interpret the data submitted by the States. EPA does not confirm that the States have fully reported all violations. Readers should view the violations data provided in the State summaries in the context of each specific State and its individual drinking water program. Although PWSs are required to report all violations to the State, States vary in the areas their programs choose to emphasize. Thus, the fact that a State reported a large number of violations for a particular rule (e.g., the Lead and Copper Rule), may only indicate that the State devoted more attention and resources to that rule than to other rules and, as such, the data reported are more complete than the data another State reported showing fewer violations of the same rule.

A list of all PWSs having either MCL or treatment technique violations in 1997 has also been developed by many States and provided by States to EPA. Copies of these lists will be available from EPA's Safe Drinking Water Hotline at (800) 426-4791.

## **CONCLUSIONS AND ACTIVITIES TO ADDRESS RECOMMENDATIONS**

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As stated above, the nation's drinking water is generally safe. The vast majority of Americans received water from systems that reported violations of neither MCL and treatment technique requirements nor significant violations of monitoring and reporting requirements.

The following recommendations address the significant challenges that remain as EPA, States, and Tribes work to improve compliance with the SDWA Amendments of 1996. Because only six months has elapsed since the issuance of EPA's first national PWS Compliance report for calendar year 1996, the recommendations of the two reports are the same.

Most of the recommendations involve coordinated effort on the part of EPA and States, or EPA and Indian Tribes, to address violations of a specific type or to improve the

collection and maintenance of compliance data. As detailed in the discussion that follows, many of the activities underway to implement the SDWA Amendments of 1996 are directly responsive to these recommendations.

## **1. ENFORCEMENT AND COMPLIANCE ASSISTANCE RECOMMENDATIONS REGARDING PUBLIC WATER SYSTEMS IN STATES**

- **States and EPA should work together to address significant violations of monitoring and reporting requirements.**
- **States and EPA should work together to address violations of MCL and treatment technique requirements.**
- **States and EPA should work together to address violations at non-community water systems.**

EPA and the States are working to address these recommendations on a number of fronts. Improving compliance requires a mix of compliance assistance, capacity building activities, and targeted enforcement activities.

A key part of improving compliance with both health-based standards and monitoring and reporting requirements is ensuring that operators of public water systems have the information and the training they need to do their jobs properly. The 1996 Amendments provided funding to support nine technology assistance centers to help small systems with training, technical assistance, and technology demonstrations. Additionally, EPA and the States facilitate compliance with existing drinking water requirements by conducting numerous compliance assistance activities, such as on-site visits and development and distribution of plain English guides and checklists on regulatory requirements. EPA, with its State and drinking water stakeholder partners, are also working pro-actively to ensure that the operators of public water systems understand and are prepared to comply with new requirements, like Consumer Confidence Reports, and new standards, like

the Disinfection By-products Rule. EPA is using the new Local Government Environmental Assistance Network (LGEAN) as an interactive platform to provide free information on current and developing SDWA requirements. LGEAN provides information and compliance tools to anyone with Internet or telephone access, and gives anyone with Internet or telephone access an avenue for conveying questions and comments to EPA.

Making drinking water compliance information readily available to the public is another aspect of improving compliance at public water systems. The annual public water systems compliance reports prepared by States and by EPA are just one aspect of this effort. The public will also receive Consumer Confidence Reports annually from their community water systems and, if necessary, more timely notice of MCL or treatment technique violations as required by the Public Notification Rule. The three Internet sites mentioned earlier in this report provide public access to a wealth of drinking water compliance information. Putting this information on display both informs the public and provides an incentive for the operators of water systems and for drinking water regulators to achieve and maintain the high levels of compliance that the public demands.

Consistently achieving a high level of compliance can be a greater challenge for small public water systems that may lack the financial, technical, or managerial resources available to medium and large systems. By enacting new compliance assistance tools created by the 1996 Amendments, EPA and the States are helping small communities overcome these impediments. Among the important new developments: a list of approved small system compliance technologies that allows more flexibility in treating drinking water, and revised variance and exemption rules that allow EPA and States to provide small systems some flexibility in how and when they will meet drinking water requirements.

With capacity development programs, particularly those tied to the Drinking Water State Revolving Fund, EPA and the States are helping small systems overcome the root

causes of noncompliance—the often intractable problems of deficient infrastructure, untrained operators, and inadequate financing. Financial assistance from this fund will improve compliance at the 46,473 small community water systems and at the 115,602 non-community water systems, 99.7% of which serve fewer than 3,300 people. Congress appropriated \$2.8 billion through Fiscal year 1999 for the Drinking Water State Revolving Fund this purpose. Diligent efforts by the States ensured that every State had an approved program for implementing its Drinking Water State Revolving Fund in place before the end of 1998 and had begun receiving capitalization grants.

Enforcement will always be part of a credible regulatory program. State and Federal enforcement actions against noncomplying public water systems both discourage violations and level the playing field for those systems that devote resources to remaining in compliance. Although public water systems of all types need to know that violations can and will result in enforcement actions, EPA and the States will target particular kinds of systems and violations posing the greatest risks to protect public health. Required source water assessments are a potential tool to help EPA and its partners identify and evaluate threats to the sources of drinking water and address them with appropriate compliance and enforcement efforts

EPA is meeting with States and other drinking water stakeholders seeking input that will help the Agency formulate the most effective strategy for implementing the recommendations in its first two annual reports. EPA will refine its recommendations in future annual reports by integrating the data improvements that result from the ongoing data reliability efforts discussed below. EPA plans to incorporate the resulting implementation commitments into its Memoranda of Agreement (MOA) with EPA Regions, and has identified the control of microbial contamination as priority across all enforcement programs. The Regions can in turn use these priorities when negotiating Performance Partnership Agreements with their States.

## 2. RECOMMENDATION CONCERNING DATA QUALITY

- **EPA and drinking water stakeholders should work cooperatively to improve the quality of compliance data.**

This is the recommendation on which EPA has focused the most effort since the issuance of the 1996 National Public Water Systems Report in September of 1998. During preparation of that report, EPA noted that compliance data in many individual state reports differed from the data reported to SDWIS/FED. In fall of 1998, EPA held a series of stakeholder meetings that help identify a number of interim and long-term goals. EPA and its stakeholders have agreed that the data quality goal should be 100% complete, accurate, and timely data which portray the data submitted by public water systems and primacy agencies, consistent with SDWA reporting requirements. This goal will be advanced through interim milestones, which can be set once the current level of quality is determined.

- **Improve the display of drinking water data in Envirofacts:** EPA and its stakeholders have agreed to a number of changes to improve the way drinking water data are portrayed in Envirofacts (an EPA web site where the public can access information about the performance of a public water system). Changes which need to be made include: displaying only data subsequent to January 1, 1993 since these data are more accurate than older data, providing better description of the data and explanations of violations, listing MCL/treatment technique violations separately from monitoring violations, developing a better way to link violation and follow-up actions, and revising the compliance period date to indicate more accurately the length of the violation.
- **Characterize and quantify the data quality problem:** EPA and its stakeholders will work together to better define the data quality problem. Activities include comparing the data submitted by States in their Annual

Compliance Reports with the data they report to SDWIS/FED, comparing the data in SDWIS/FED to the data in Envirofacts, asking public water systems to identify errors in the SDWIS/FED data displayed in Envirofacts, analyzing data verification reports to identify generic problems and the extent of their occurrence, analyzing quarterly SDWIS/FED production reports to identify data which are rejected, and analyzing state management structures to determine if there is a relationship between management structure and data quality.

- **Take interim steps to improve data quality:** While the characterization and quantification effort is underway, EPA and its stakeholders agreed that there are numerous activities which could be undertaken to improve the quality of data currently in SDWIS/FED and newly entering data. Activities to improve the quality of data feeding into SDWIS/FED include: developing a mechanism for utilities to review data before states send data to SDWIS/FED; streamlining reporting requirements for upcoming rules; accelerating the implementation of electronic reporting; conducting more frequent data verifications and following up on their

recommendations; involving data management staff in rule development, working with state and regional management structures from the perspective of maximizing data quality; and improving record keeping and reporting of compliance information on Indian lands. Activities to improve quality of data in SDWIS/FED include correcting software bugs, accelerating development and implementation of SDWIS/STATE, providing additional error check routines in SDWIS/FED, improving existing data entry tools, ensuring that quarterly submissions are reviewed and errors are corrected, issuing quality assurance manuals for Regions and States, and facilitating data retrieval.

- **Make long-term commitment to achieve and maintain data quality goals:** Upon completion of the characterization and quantification effort, EPA and its partners will take the actions identified as necessary to ensure that the data quality goal that the data in SDWIS/FED achieves 100% completeness, accuracy, and timeliness in portraying the data submitted by public water systems and primacy agencies. EPA and its partners will also take the actions necessary to maintain those levels.

# Public Water Systems on Indian Reservations

## INTRODUCTION

This section of the 1997 National Annual Public Water Systems Compliance Report provides information on the compliance status of public water systems (PWSs) on Indian reservations for calendar year 1997. This is the second report issued pursuant to section 1414(c)(3)(B) of SDWA as amended in 1996. EPA issued the first report on September 3, 1998, for calendar year 1996.

## ROLE OF OTHER FEDERAL AGENCIES

EPA is only one of the Federal agencies implementing the drinking water program at PWSs on Tribal reservations. Other agencies involved in this process include the Indian Health Service, the Bureau of Indian Affairs, and the Bureau of Reclamation. The Indian Health Service provides a comprehensive health services delivery system for American Indians and Alaska Natives along with the opportunity for maximum Tribal involvement in developing and managing programs to meet health needs.

The Bureau of Indian Affairs is the primary Federal agency fulfilling the United States' trust responsibilities to Tribes and Native Villages. The Bureau of Indian Affairs works with Tribal managers in protecting and managing trust resources. As the bureau expands its involvement in environmental management, it will work with Tribes, Alaska Native Villages, and other Federal agencies, such as EPA and the Indian Health Service, to help PWSs on Indian reservations stay in compliance.

The Bureau of Reclamation provides technical assistance to Indian Tribes in the management of their resources. A number of projects have been designed to improve water quality on Indian reservations.

**During calendar year 1997, there were 728 community water systems, 77 non-transient non-community water systems, and 125 transient non-community water systems located on Indian lands.**

**These 930 public water systems served a population of approximately 475,000 people.**

**Most of these systems were small and served fewer than 500 people.**

**There were no public water systems on Indian lands that served more than 100,000 people.**

**Only two Tribal water systems served populations of more than 10,000 people.**

## PUBLIC WATER SYSTEMS ON INDIAN RESERVATIONS

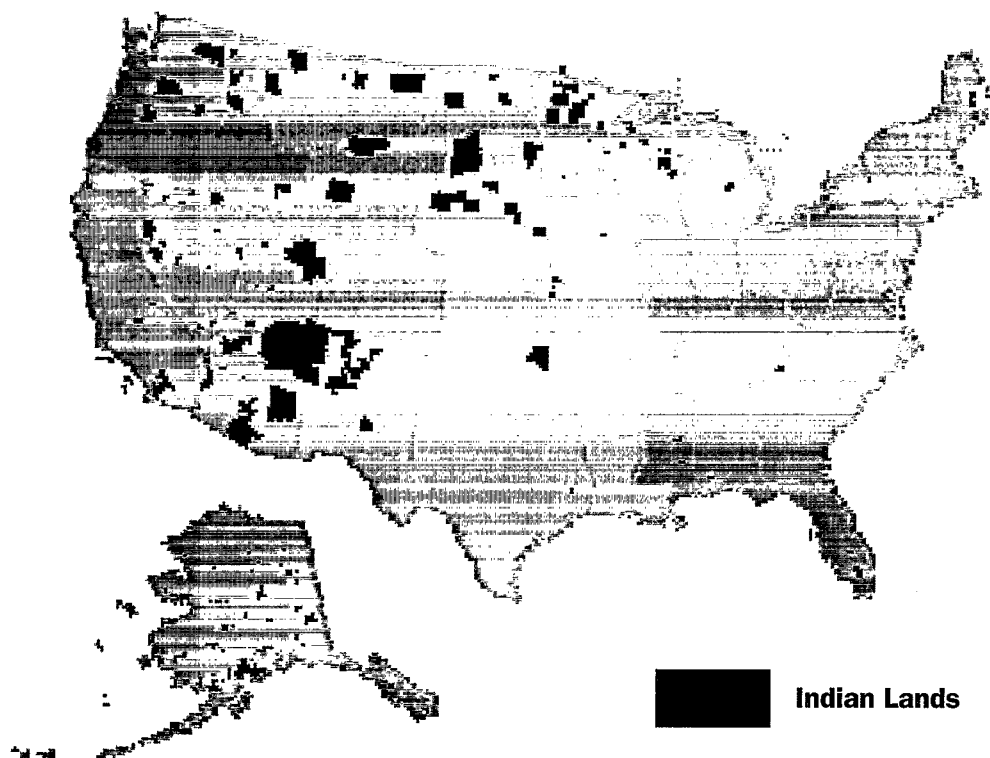
Tribes are eligible to receive primary enforcement responsibility (primacy) to administer their drinking water program. Because no Tribe has received primacy to date, EPA implements the drinking water program on all Indian lands. (See Figure 12)

## COMPLIANCE DATA

The national drinking water database, the Safe Drinking Water Information System (SDWIS/FED), was the primary source of information for this report. The EPA Regional Offices are responsible for updating the SDWIS/FED database and keeping information in SDWIS/FED accurate and up-to-date.

In developing the first report, EPA found that inventory and violations data for 1996 were not fully reported in SDWIS/FED. This was also the case for 1997 data, but the ongoing efforts of EPA's Regional Offices have resulted in a

**FIGURE 12: MAP OF INDIAN LANDS**



much more complete and accurate database for this second report. Data management for compliance information is now an EPA priority. To address this priority, EPA is working to improve its Tribal compliance data by improving the inventory of PWSs located on Indian reservations.

Compliance figures for Alaska Native Villages are not included in this section of the report. They are included in the State report for the State of Alaska. Other Tribal systems may also be included in State reports. Oklahoma includes these systems in its State inventory. However, the discussion on financial assistance and conclusions and recommendations in this section are applicable to all American Indian and Alaska Native water systems.

## **COMPLIANCE ANALYSIS**

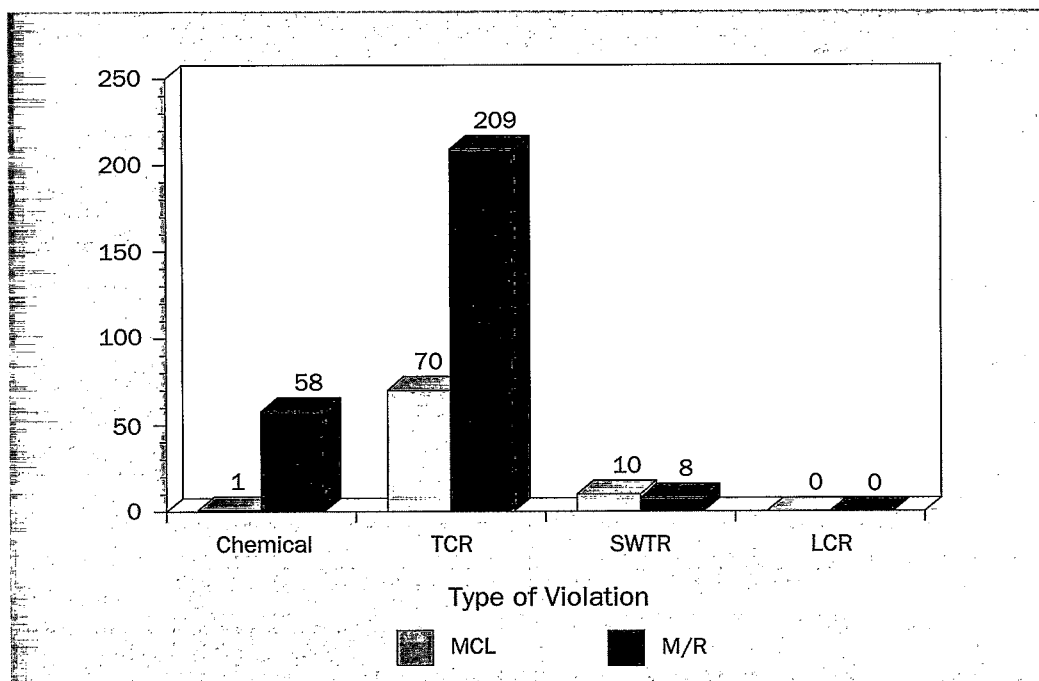
In 1997, 500 of the 930 public water systems on Indian reservations recorded violations. The number PWSs violating provisions of the chemical rules, the Total Coliform Rule, and the Surface Water Treatment Rule are shown in figure 13. No violations of the Lead and Copper Rule were reported in 1997 at public water systems on Indian reservations. of EPA's analysis of the data produced the following notable findings:

**At 46% of public water systems located on Indian reservations, there were neither reported violations of health-based standards nor significant violations of monitoring and reporting requirements.**

- 48% of community water systems located on Indian reservations had no reported violations of MCL or treatment technique requirements and no significant violations of monitoring and reporting requirements.



**FIGURE 13: NUMBER OF TRIBAL PUBLIC  
WATER SYSTEMS REPORTING VIOLATIONS**



- 40% of non-transient non-community water systems located on Indian reservations had no reported violations of MCL or treatment technique requirements and no significant violations of monitoring and reporting requirements.
- 39% of transient non-community systems located on Indian reservations had no reported violations of MCL or treatment technique requirements and no significant violations of monitoring and reporting requirements.

**89% of public water systems located on Indian reservations had no reported violations of health-based MCL or treatment technique requirements.**

- 89% of community water systems located on Indian reservations had no reported
- MCL or treatment technique violations.

- 89% of non-transient non-community water systems located on Indian reservations had no reported MCL or treatment technique violations.
- 90% of transient non-community systems located on Indian reservations had no reported violations of MCL or treatment technique requirements.
- In all categories of water systems, the health-based standard most frequently violated (138 of 156 health-based standard violations) was the MCL for the Total Coliform Rule.

**Most violations at public water systems on Indian reservations were significant violations of monitoring and reporting requirements, not violations of health-based drinking water standards.**

- In 1997, there were 1,040 MCL, treatment technique, and significant monitoring and reporting violations reported by 500 of the 930 public water systems located on Indian reservations.

- 156 (15%) were violations of MCL and treatment technique requirements.
- 884 (85%) were significant violations of monitoring and reporting requirements.

**Even so, 66% of public water systems located on Indian reservations had no significant violations of monitoring and reporting requirements.**

- 68% of community water systems located on Indian reservations had no significant violations of monitoring and reporting requirements.
- 57% of non-transient non-community water systems located on Indian reservations had no significant violations of monitoring and reporting requirements.
- 62% of transient non-community water systems located on Indian reservations had no significant violations of monitoring and reporting requirements.
- Violations of the monitoring and reporting requirements of the Total Coliform rule accounted for 723 of the 884 significant monitoring and reporting violations at public water systems on Indian reservations in 1997.

**98% of all public water systems located on Indian reservations served 3,300 or fewer people.**

- 709 of the 728 community water systems located on Indian reservations served 3,300 or fewer people. Only one community water system served more than 10,000 people.
- All 77 non-transient non-community water systems located on Indian reservations served fewer than 3,300 people.
- Only one of the 125 transient non-community water systems located on Indian reservations served more than 3,300 people.

## **COMPLIANCE ASSISTANCE AND ENFORCEMENT**

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EPA is responsible for ensuring PWS compliance with SDWA regulations on Indian reservations and uses multiple approaches to facilitate compliance. This report also provides information on EPA's compliance assistance program not generally represented in the SDWIS/FED database.

EPA's tribal compliance assistance program includes training sessions for PWSs, newsletters containing information specific to Tribal PWS interests, field presence, and other types of support activities that provided needed information for compliance. Technical assistance is a key component of EPA compliance assistance activities. Technical assistance includes circuit riders — expert operators — who provide direct on-site support to PWS operators and managers. This assistance can include site visits, telephone calls, mailings, and hotlines. A circuit rider promotes knowledge of drinking water regulations through his presence in the field, provides technical assistance to Tribes, and builds cooperative working relationships with EPA.

EPA coordinates many of these compliance assistance activities with the Indian Health Service, the Bureau of Reclamation, the Rural Water Association, and the Rural Community Assistance Program. In many cases, EPA provides information on updated monitoring and reporting requirements, such as a yearly monitoring requirement letter customized for PWSs located within each reservation in a Region.

EPA is also responsible for initiating enforcement actions against owners or operators of PWSs if a PWS is not in compliance with SDWA. EPA uses several types of formal enforcement actions against PWSs, including administrative orders, settlement agreements, and civil and criminal referrals to the Department of Justice. EPA also uses informal enforcement actions to return PWSs to compliance.

The "EPA Policy for the Administration of Environmental Programs on Indian Reservations" guides the Agency's approach to bringing administrative or judicial enforcement actions on Indian reservations. Although EPA does initiate formal enforcement responses in circumstances where such actions are appropriate, in most cases, EPA relies on informal enforcement actions and compliance assistance to facilitate a Tribal public water system's return to compliance.

EPA uses a wide array of informal enforcement actions on Indian reservations to return PWSs to compliance. These activities are directed toward PWS operators, utility managers, and tribal government officials. Typical informal enforcement actions include:

- Telephone calls and on-site visits by EPA enforcement personnel to discuss potential and actual violations;
- Compliance letters or pre-warning violation letters;
- Informal notices of violations

Table 3 depicts the numbers of informal enforcement actions in relation to the total number of PWSs on Indian reservations. The largest numbers of informal enforcement actions are Federal Violation or Reminder Notices. For calendar year 1997, EPA issued 375 Federal Violation or Reminder Notices.

**TABLE 3: NUMBER OF PWSs ON TRIBAL LANDS WITH VIOLATIONS BY RULE**

1996 PWSs AND VIOLATIONS	TOTAL NUMBER
Total Number of PWSs	930
Total Number of Violations	1040
Total Number of PWSs with Violations	500

ENFORCEMENT ACTIONS IN RESPONSE TO VIOLATIONS	NUMBER ISSUED
Federal Violation or Reminder Notice issued by the EPA Regional Offices	375
Federal public notification to consumers of a PWS regarding violations	71
Federal Public Notification requested by EPA Regional Offices to be sent to consumers of a PWS regarding violations and health risk.	49
Federal Technical Assistance visit	12
Federal Notice of Violation issued by EPA Regional Offices. This is usually a formal action, however, some Regions use it as an informal action with Tribes.	4
Federal Penalty Administrative Order issued	3
Federal Intentional No-Action	3
Federal 1431 Order	2
Federal Boil Water Order	2
Other	1

## FINANCIAL ASSISTANCE

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EPA provides financial assistance to PWSs on Indian reservations in several ways. One approach is to build Tribal capacity to manage the water systems in compliance with SDWA. Capacity building entails providing Tribes with grants, training, and program technical assistance as they develop their own environmental programs. A significant source for building capability is through grants provided under the General Assistance Program. Under a second approach, EPA's Office of Ground Water and Drinking Water provides funding for specific program priorities. Historically, 3% of the appropriations for State implementation of the Public Water System Supervision program is used for implementation of the program on Tribal Lands. The funds are used by EPA to operate its Tribal Public Water System Supervision program. About \$2.7 million was allotted for implementing the Public Water System Supervision program on Tribal lands in Fiscal Year 1997. Additionally, a number of grants have been awarded to Indian Tribes and Tribal Organizations to address various aspects of the drinking water program.

In Fiscal Years 1998 and 1999, EPA received \$3.8 million, in addition to the 3% set-aside, to be used for activities such as:

- Public Water System Supervision Program Primacy Workshops - EPA is planning to provide general outreach material to all Tribes eligible to pursue primary enforcement responsibility.
- Capacity Development - EPA is providing funds for Tribal capacity development projects.
- Source Water Protection - EPA is providing funds for Tribal source water protection projects.
- Operator Certification - EPA is developing a voluntary Operator Certification Program for Tribes and will use funds to provide operator training and certification to Tribal operators.

Examples of additional support provided by Regional Offices include circuit rider programs to help Tribes develop self-supporting PWSs on Indian reservations, conducting laboratory analysis of samples for monitoring, and awarding grants to address operator training and wellhead protection.

In the 1996 Amendments to SDWA, an infrastructure funding program was established to improve water supplies. Each year, 1.5 percent of the appropriation for the national Drinking Water State Revolving Fund program will be set aside as grants to improve infrastructure for water systems on Indian reservations and in Alaska Native Villages. The initial set-aside from the 1997 appropriation amounted to \$19.25 million, an additional \$10.87 million was set-aside from the 1998 appropriation, and \$11.625 million was set-aside from the 1999 appropriation. The 1995 EPA appropriations bill authorized drinking water and wastewater grants to the State of Alaska for the benefit of rural and Native villages. Although the authorized \$15 million annual grant, for fiscal years 1997 through 2000, targets construction needs, a portion of the funds can be used to support technical assistance and training.

Additional technical assistance for small PWSs is also provided under Section 1442(e) of SDWA, which states that a portion of the funding appropriated under the section shall be used to provide technical assistance to small PWSs owned or operated by Indian Tribe. For example, EPA currently has two cooperative agreements funded under Section 1442(e) of SDWA with the National Rural Water Association and the Rural Community Assistance Program to provide support to PWSs.

## CONCLUSIONS AND RECOMMENDATIONS

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This report shows much the same compliance situation as the 1996 report. Approximately 62% of the public water systems located on Indian reservations had neither a reported violation of a health-based standard nor a

significant violation of a monitoring and reporting requirement. Of the 930 public water systems on Indian reservations, 91% of the public water systems located on Indian reservations reported no violations of MCL and treatment technique requirements. Closely matching the performance of non-Tribal public water systems, 84% of the violations on Indian reservations were significant violations of monitoring and reporting requirements.

The short interval between the September 1998 release of the first national report and issuance of this second national report gave EPA no significant opportunity to implement these recommendations, and the recommendations for the two reports are the same.

- **EPA should take action to improve compliance of PWSs on Indian reservations**
- **EPA should improve its collection and maintenance of compliance data for public water systems on Indian reservations**

Many of the activities described in the section of EPA's national report discussing implementation of enforcement and compliance assistance recommendations regarding public water systems in States will also apply to the implementation of the recommendations regarding public water systems on Indian reservations. Those activities that focus on small systems and developing small system capacity will be particularly applicable, as 75% of the public water systems on Indian reservations serve fewer than 500 people. A significant source of building capacity is through grants provided under the General Assistance Program.

EPA Regional offices provide additional support to Tribes in the form of circuit rider programs to help Tribes develop self-supporting PWSs on Indian reservations, free laboratory analysis of samples collected during monitoring, and grants to address operator training and wellhead protection. Rather than responding to violations at tribal public water systems with formal enforcement actions, EPA focuses on informal enforcement responses and compliance assistance to return these systems

to compliance. EPA's informal enforcement responses typically include telephone calls and site visits to counsel system operators, compliance letters or warning letters, and informal notices of violations.

The 1997 EPA Drinking Water Infrastructure Needs Survey highlighted the needs for capital improvements for public water systems on Indian Reservations. Each year 1.5% of the appropriation for the national Drinking Water State Revolving Fund is set aside for grants to improve infrastructure for water systems on Indian reservations and in Alaska Native Villages. In 1997, that set-aside was \$19.25 million. Inadequate infrastructure is one of the major reasons public water systems on Indian reservations fail to meet SDWA requirements.

In Fiscal Year 1997, EPA used \$2.7 million, 3% of all Federal funding to implement the Public Water System Supervision (PWSS) program, to implement the PWSS program on tribal lands. In Fiscal Years 1998 and 1999, EPA received an additional \$3.8 million to be used for Tribal compliance assistance activities such as: Public Water System Supervision program primacy workshops, capacity development projects, source water protection - EPA is providing funds for Tribal source water protection projects, and operator training and certification.

To ensure that any unique needs of public water systems on Indian reservations are met, EPA is seeking input from Tribal stakeholders as the Agency explores the most effective options for implementing the recommendations of EPA's annual reports. EPA will work cooperatively with Tribal Councils and their water system operators to improve compliance with monitoring and reporting requirements, particularly for Total Coliform Rule and chemical contaminant requirements. This can be accomplished through compliance assistance efforts, such as increasing EPA's field presence, conducting more frequent sanitary surveys, and providing technical assistance and enforcement, as appropriate.

EPA will also look for new ways to provide effective compliance assistance and technical assistance to Tribes, and will improve its own inventory of PWSs located on Indian

reservations to facilitate development of programs that foster the environmental management infrastructure.

EPA has already identified problems related to the collection and entry into SDWIS/FED of information on public water systems on Indian reservations. Activities to address those problems and ensure the completeness and reliability of this data, although focused within

EPA, will be similar to those described with respect to the data quality activities underway with respect to State data in SDWIS/FED. Activities to implement the enforcement and compliance recommendations will be incorporated into Memoranda of Agreement with EPA Regions that exercise primary enforcement authority over tribal lands.

# EPA Activities Underway to Implement the SDWA Amendments of 1996

The Clinton Administration has always recognized that many tools and resources are essential to ensure that Americans have drinking water that meets all health standards. The SDWA Amendments of 1996 provided many new authorities to enable EPA to more quickly meet its goal of safe drinking water. Now, two and a half years after passage of the 1996 Amendments, EPA has exercised these authorities and finalized every product required in the law to date and has done so with maximum stakeholder involvement. This stakeholder participation included numerous public meetings, public review and comment of documents, and the help of the National Drinking Water Advisory Council and its associated working groups.

## PROMOTING PUBLIC INFORMATION AND INVOLVEMENT

The public has a right to know what is in its drinking water and to participate in decisions affecting that drinking water. The 1996 Amendments include a strong and pervasive ethic of public information and involvement, and in this second year of implementing the Amendments, EPA and its partners have produced major tools and undertaken a variety of activities to ensure that the public is well informed.

- **Consumer Confidence Reports:** Consumer confidence reports are the centerpiece of the right-to-know provisions in SDWA. In August 1998, EPA promulgated a rule to require drinking water systems to provide annual reports to their customers on the state of their drinking water supply. The information contained in these reports will enable Americans to make

practical, knowledgeable decisions about their health and their environment. The reports also provide a way for the public to get more information about other provisions required by the 1996 Amendments such as assessments of drinking water source quality. Systems will deliver the first of these reports to their customers before October 1999.

Each report must provide consumers with the following fundamental information about their drinking water: The source of the water; a brief summary of its susceptibility to contamination (based on assessments of drinking water source quality that States will complete over the next five years); the level (or range of levels) of any contaminant found in the drinking water, compared with EPA's health-based standard; the likely source of that contaminant in the local drinking water supply; the potential health effects of any contaminant detected in violation of an EPA health standard; an accounting of any actions a system takes to restore safe drinking water; an educational statement for vulnerable populations, such as children, and the effects of certain contaminants; educational information on nitrate, arsenic, or lead in areas where these contaminants are detected at levels more than 50% above EPA's standard; and phone numbers for additional sources of information, including that of the water system and EPA's Safe Drinking Water Hotline.

- **Ensuring Public Access to Additional Information:** EPA is acting to ensure that new information tools are made available to the public. This year, EPA

worked with States and other stakeholders on ways to make the results of upcoming source water assessments available to the public. EPA has formed a Public Right-to-Know working group of the National Drinking Water Advisory Council to discuss how to make drinking water information available to the public, and how to involve all interested parties in the decision-making process.

- **Using the Internet to Increase Public Access:** EPA has been working over the past year to make drinking water information available to the public via the Internet (<http://www.epa.gov/safewater>). EPA has created and will expand a geographic information site where consumers will be able to get information about their water, including their local drinking water supply. This will include information on violations of drinking water standards, State compliance reports, water system consumer confidence reports, and State drinking water information and contacts. EPA has also worked with state organizations and every state to create source water protection homepages.
- **Preparing for Greater Public Involvement:** In its effort to develop more effective and durable policies, EPA has continued to uphold the SDWA ethic of public involvement in its decision-making processes by holding public meetings and providing an opportunity for public review of draft documents. By maintaining this high level of public involvement, resulting in consensus building whenever possible, EPA is demonstrating on a national level the benefits of the types of public involvement that the 1996 SDWA Amendments also specify extensively for States. While SDWA provides States with flexibility and substantial Federal funding to meet the challenging task of building several important new programs, it also adds a public participation framework to enable States to involve their residents in, and

strengthen the substantive content of, their efforts. During the next year, a working group will review material to be developed for the public, and will suggest ways to use this material to educate and involve more consumers in decisions about their drinking water.

Over the past two years, as EPA has worked closely with States to provide guidance and implement programs. The Agency has also worked to advance statutorily required public involvement in key areas such as: State decisions on the use of the Drinking Water State Revolving Fund for projects and programs; development and implementation of State source water assessment programs; the framing of State programs to strengthen the technical, financial, and managerial capacity of water systems; and in State consideration of variance and exemption requests.

## PROVIDING TOOLS TO STATES, TRIBES, AND WATER SYSTEMS TO IMPROVE COMPLIANCE

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The 1996 SDWA Amendments gave the nation a new approach to drinking water protection which focuses attention on the highest public health priorities. This includes a holistic approach to prevention and protection, an emphasis on the public's right-to-know, and a series of building blocks for States and water suppliers that can help in implementation. Two years after passage of the Amendments, most of these building blocks are in place. These activities will assist EPA and the States as they work to assure compliance with drinking water standards.

- **Drinking Water State Revolving Fund (DWSRF):** The 1996 Amendments created the DWSRF to enable States to help water systems finance infrastructure improvements that are needed to solve compliance and public health problems. States can also use these funds to help systems protect their source water and improve water system management. Congress has appropriated \$2.8 billion for the DWSRF through FY'99. By the end of FY'98,



every State had a DWSRF program approved by EPA, and had received at least its first commitment of funds ("capitalization grant").

- **Capacity Development:** Capacity refers to the technical, financial, and managerial capability of a water system to plan for, achieve, and maintain compliance with drinking water standards. Capacity development is a State effort to help drinking water systems improve their finances, management, infrastructure, and operations so they can provide safe drinking water consistently, reliably, and cost-effectively. Many small drinking water systems have difficulty complying with some of the complex provisions of SDWA because their capacity is often constrained by their limited economies of scale. The new SDWA has several features with great potential to increase system capacity, and thereby correct and prevent noncompliance. In August 1998, EPA released guidance and information to help States work together with water systems to carry out new capacity development provisions from the law, including a requirement that States have authority to prevent the formation of new public water systems that lack the capability to operate and manage a drinking water system. States must also implement a strategy to help existing systems develop the capability to operate and maintain their system and ensure long-term compliance.
- **Water System Operator Certification:** Operator competency is critical to the protection of public health and maintenance of safe, effective, and reliable water treatment plants and distribution lines. In March 1998, EPA published in the Federal Register for public comment a set of "Draft Guidelines for the Certification and Recertification of the Operators of Community and Non-transient Noncommunity Public Water Systems." These guidelines were developed through a partnership with States,

water systems, and the public. In February 1999, EPA issued final guidelines for States to use in making changes to their operator certification programs.

- **Source Water Protection:** The first step in a multiple barrier approach to drinking water protection is preventing contamination of drinking water sources. This avoids the need to pay for costly treatment to remove contamination after it occurs. In August 1997, EPA issued source water assessment and protection guidance for States to use to complete source water assessments for their public water systems. States, water systems, and the public can work together using Federal funding to protect the highest priority sources identified in the assessments. During this past year, States have been working diligently to prepare their assessment programs, which were due to EPA by February 1999. The state of Kentucky submitted a program which EPA approved in September 1998.
- **Proposed Regulation for Underground Injection Control Class V Wells:** Some shallow waste disposal wells pose a threat to underground sources of drinking water. On July 17, 1998, EPA issued a proposal in the Federal Register to regulate specific types of high-risk wells, such as large cesspools, motor vehicle wells, and industrial wells, located in source water protection areas for systems using ground water. When finalized in 1999, this regulation will give States a new tool for source water protection efforts.
- **Support for Indian Tribes:** The problems facing public water systems located on Indian reservations are significant. Many of the systems face challenges related to their small size (75% of systems serve populations of fewer than 500 people) and limited sources of revenue. Many of the tools discussed above include funding and provisions to address the special problems of these public water systems.

In addition, the 1996 SDWA Amendments provided that 1.5% of the amount appropriated for the DWSRF program be made available to water systems on Tribal lands in the form of grants. This translated into \$30 million for fiscal years 1997 and 1998.

## **HELPING SMALL SYSTEMS PROVIDE SAFE DRINKING WATER**

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Although they serve a small percentage of the nation's population, water systems serving fewer than 10,000 persons constitute the majority of all drinking water systems. Small systems often do not have a full-time operator, and their limited customer base often makes compliance with public health standards difficult due to affordability problems. The 1996 Amendments created several new tools to help address the special needs of small systems.

- **List of Small System Compliance Technologies:** In August 1998, EPA published a list of alternative technologies that small systems may use to remove or treat regulated contaminants. These alternative technologies give small systems more flexibility in choosing the most cost-effective methods to meet drinking water standards.
- **Variances and Exemptions:** In August 1998, EPA revised its variance and

exemption rule, which provides a framework to help small systems comply with drinking water standards. Variances allow a small system that cannot afford to comply with a drinking water standard to deviate from the standard under certain conditions, as long as the drinking water is still protective of public health. Exemptions allow a water system extra time to obtain needed financial assistance, develop an alternative source of water, engage in management or restructuring changes, or make any other effort needed to bring the system into compliance.

- **Technical Assistance:** EPA is now supporting a total of nine technology assistance centers, based at universities, to help small drinking water systems with training, technical assistance, and technology demonstrations. With grant support from EPA, university-based Environmental Finance Centers are assisting States in developing and implementing innovative programs to help small systems build and maintain their capacity. In addition, up to two percent of a State's DWSRF capitalization grant may be used to provide technical assistance to systems serving fewer than 10,000 persons, and SDWA requires that at least 15% of the DWSRF be made available to small systems.

**TABLE 4: EPA PRODUCTS TO SUPPORT SDWA IMPLEMENTATION**

Programs	1st year (August 1996-97)	2nd year (August 1997-98)	3rd year and Future
Public Information and Involvement	<ul style="list-style-type: none"> <li>• Expansion of National Drinking Water Advisory Council (NDWAC)</li> </ul>	<ul style="list-style-type: none"> <li>• Consumer Confidence Report Regulation</li> <li>• Compliance Reports</li> </ul>	<ul style="list-style-type: none"> <li>• National Contaminant Occurrence Database</li> <li>• Revised Public Notification</li> <li>• Right-to-Know NDWAC Working Group</li> <li>• Health Care Provider Outreach and Education NDWAC Working Group</li> <li>• Local Drinking Water Information Internet page</li> </ul>
Tools for States and Water Systems	<ul style="list-style-type: none"> <li>• Drinking Water State Revolving Fund Guidelines</li> <li>• Source Water Assessment and Protection Guidance</li> <li>• Drinking Water Infrastructure Needs Survey</li> <li>• Alternative Monitoring Guidance</li> </ul>	<ul style="list-style-type: none"> <li>• Information on Operator Certification</li> <li>• Capacity Development Guidance</li> <li>• Environmental Finance Centers</li> <li>• Proposed Class V UIC Rule</li> </ul>	<ul style="list-style-type: none"> <li>• Operator Certification Guidelines</li> <li>• Federal Support of State Source Water Assessment Activities through the Clean Water Action Plan</li> <li>• Final Class V UIC Rule</li> <li>• State Ground Water Protection Reports</li> <li>• Local Government Environmental Assistance Network</li> <li>• Drinking Water Academy—training for states</li> <li>• Public meetings on data quality and establishment of Data Reliability Workgroup</li> </ul>
Small System Needs	<ul style="list-style-type: none"> <li>• Treatment Technologies List for Surface Water Treatment Rule</li> </ul>	<ul style="list-style-type: none"> <li>• Compliance Technologies List</li> <li>• Variance and Exemptions Rule</li> <li>• Technology Assistance Centers</li> </ul>	<ul style="list-style-type: none"> <li>• NDWAC Small Systems Working Group</li> <li>• EPA to pay unregulated contaminant monitoring costs for small systems</li> </ul>
Risk-Based Standards Setting	<ul style="list-style-type: none"> <li>• Research Plans for Microbial/Disinfection Byproducts and for Arsenic</li> </ul>	<ul style="list-style-type: none"> <li>• Contaminant Candidate List</li> </ul>	<ul style="list-style-type: none"> <li>• National Contaminant Occurrence Database</li> <li>• Unregulated Contaminant Monitoring Rule</li> <li>• New drinking water standards: Interim Enhanced Surface Water Treatment Rule and Disinfectants/Disinfection Byproducts Rules</li> </ul>

## **FOCUSING SAFETY STANDARDS ON THE MOST SERIOUS HEALTH RISKS**

Strengthening research to support development of regulations based on sound science is one of the most significant provisions in the 1996 Amendments. The first major products of that scientific focus were produced in 1998. These products demonstrate the principles of targeting and focusing research on high risk contaminants and expanding public involvement in the rulemaking process by enhancing public access to data.

- The Contaminant Candidate List: In February 1998, EPA published its Contaminant Candidate List (CCL), which is the strategic blueprint for

future standards development and public health decisions. The CCL is a list of currently unregulated contaminants that are known or anticipated to occur in drinking water. The list will help EPA, States, and water systems focus their efforts on contaminants that pose the greatest risks to public health. Contaminants for priority drinking water research, occurrence monitoring, and guidance development, including health advisories, will be drawn from the CCL. EPA will also use this list to outline a plan of action, required by the year 2001, for making regulatory decisions on developing standards for five or more contaminants.

- **Strengthening Research:** EPA has expanded its research in occurrence studies, health effects, analytical methods, and treatment approaches to support its standard-setting priorities under the CCL. In addition, as required by the 1996 Amendments, EPA has developed, and is carrying out, its long-term research plans for arsenic and the microbial and disinfectants/disinfection byproducts cluster of rules.
- **Microbial and Disinfectants/Disinfection Byproducts Rules:** Congress and the Administration agree that microbial contaminants in drinking water, such as *Cryptosporidium*, pose the greatest potential risk to human health. The 1996 Amendments required EPA to issue several rules to control these contaminants and the byproducts of chemicals used to control them. On December 3, 1998, EPA dramatically advanced public health protection by issuing the first set of these rules, the Interim Enhanced Surface Water Treatment Rule and the Stage I Disinfectants/Disinfection Byproducts Rule.

## EXERCISING NEW ENFORCEMENT AUTHORITIES AND UNDERTAKING COMPLIANCE ASSISTANCE

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EPA and the States are continuing to work toward implementing the streamlined enforcement provisions of the SDWA amendments, recognizing that credible, firm, and fair enforcement responses play an important role in both in deterring noncompliance and maintaining a level playing field for the regulated community.

EPA's current enforcement priorities focus on those regulations and contaminants which pose the greatest risk to public health, i.e., the microbiological regulations (Total Coliform Rule and Surface Water Treatment Rule), lead and copper, and other acute contaminants (e.g., nitrate).

In fiscal year 1997, the States issued a total of 913 formal enforcement actions, including 632 administrative orders without penalty, 220 administrative orders with penalty, 60 civil referrals, and 1 criminal referral. In the same year, EPA issued 266 notices of violation, 392 Federal administrative orders, 12 complaints for penalty, and 4 referrals for civil judicial action.

To complement its enforcement activities, EPA also undertakes compliance assistance to help increase public water systems' understanding of, and compliance with, drinking water requirements. The Agency conducted more than 3,180 compliance assistance activities, including on-site visits to public water systems and development and distribution of compliance assistance tools. In September of 1998, the Agency opened a Compliance Assistance Center, the Local Government Environmental Assistance Network (LGEAN), designed to help local government officials stay abreast of the latest environmental requirements and technologies, including drinking water issues. LGEAN is coordinated by a number of partners, such as drinking water and governmental associations. The network will help governments disseminate information on drinking water to help systems treat water more effectively and will field questions on environmental compliance and assistance information for State and local officials, inspectors, and regulators.

## IMPROVING THE DATA THAT DESCRIBE AMERICA'S DRINKING WATER

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The nation needs reliable data in order to manage its drinking water program. It is of great importance to EPA and its partners to improve the quality and accuracy of drinking water data. EPA has collected data from States for approximately 20 years on violations of drinking water standards and stored them in an EPA data system that has recently been modernized and renamed the Safe Drinking Water Information System (SDWIS/FED). Portions of SDWIS/FED still under development will better track compliance with

existing and future regulations, track drinking water goals developed to meet the Government Performance and Results Act, and also make data recovery easier for the public.

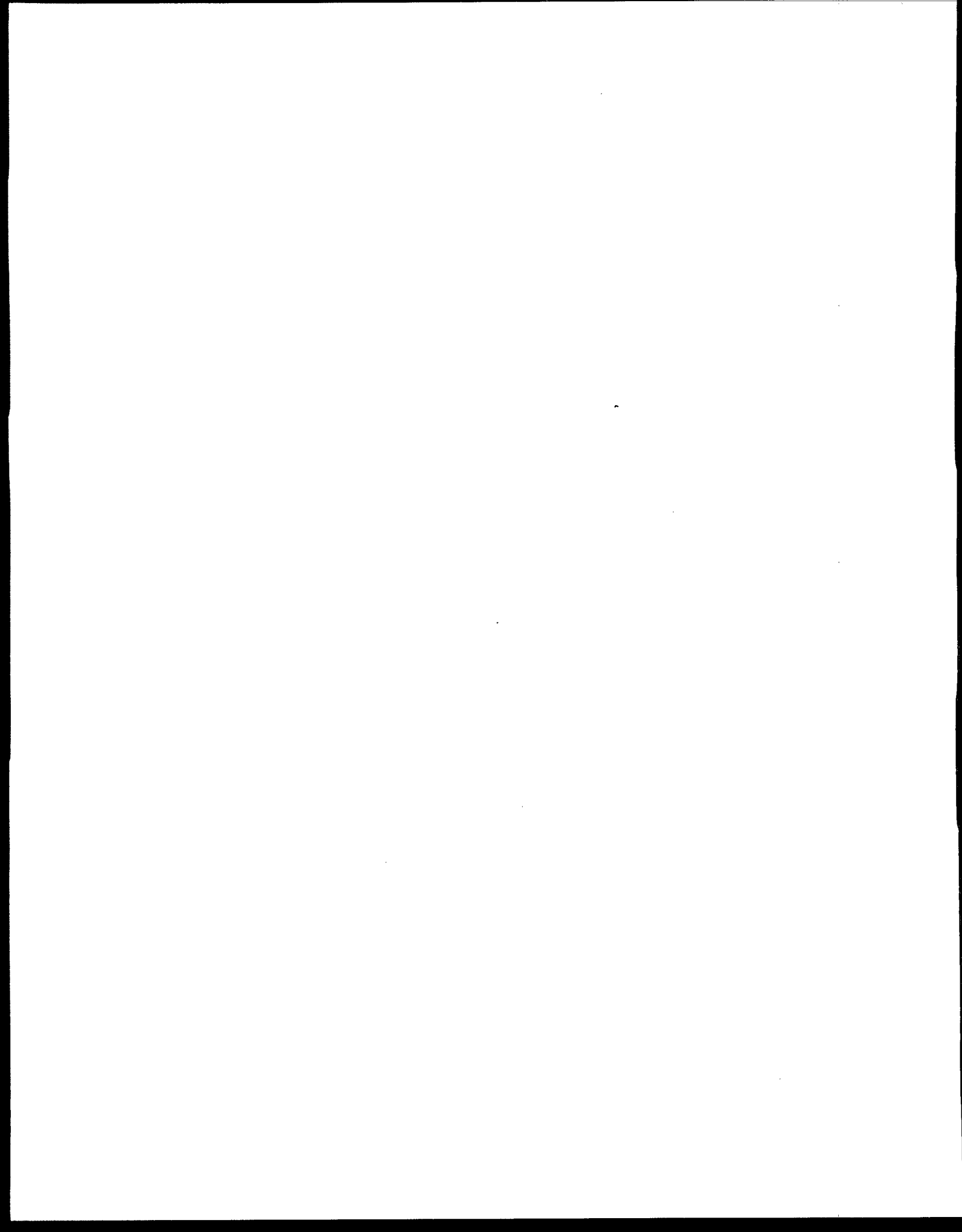
In preparing the 1996 national report, EPA identified numerous discrepancies between the data some States reported in their annual State reports and the data they reported to SDWIS/FED. To ensure SDWIS/FED data reliability, EPA has initiated a major effort to improve data quality. The effort includes establishing a data quality goal, improving the way drinking water data are presented in EPA's Envirofacts web site, characterizing and quantifying the data quality problem, and taking interim steps to improve data quality. The major steps EPA and its partners will take in this effort are:

- **Improve the display of drinking water data in Envirofacts**
- **Characterize and quantify the data quality problem**
- **Take interim steps to improve data quality**
- **Make long-term commitment to achieve and maintain data quality goals**

These steps are outlined in the activities described on pages 21 and 22 of this report.

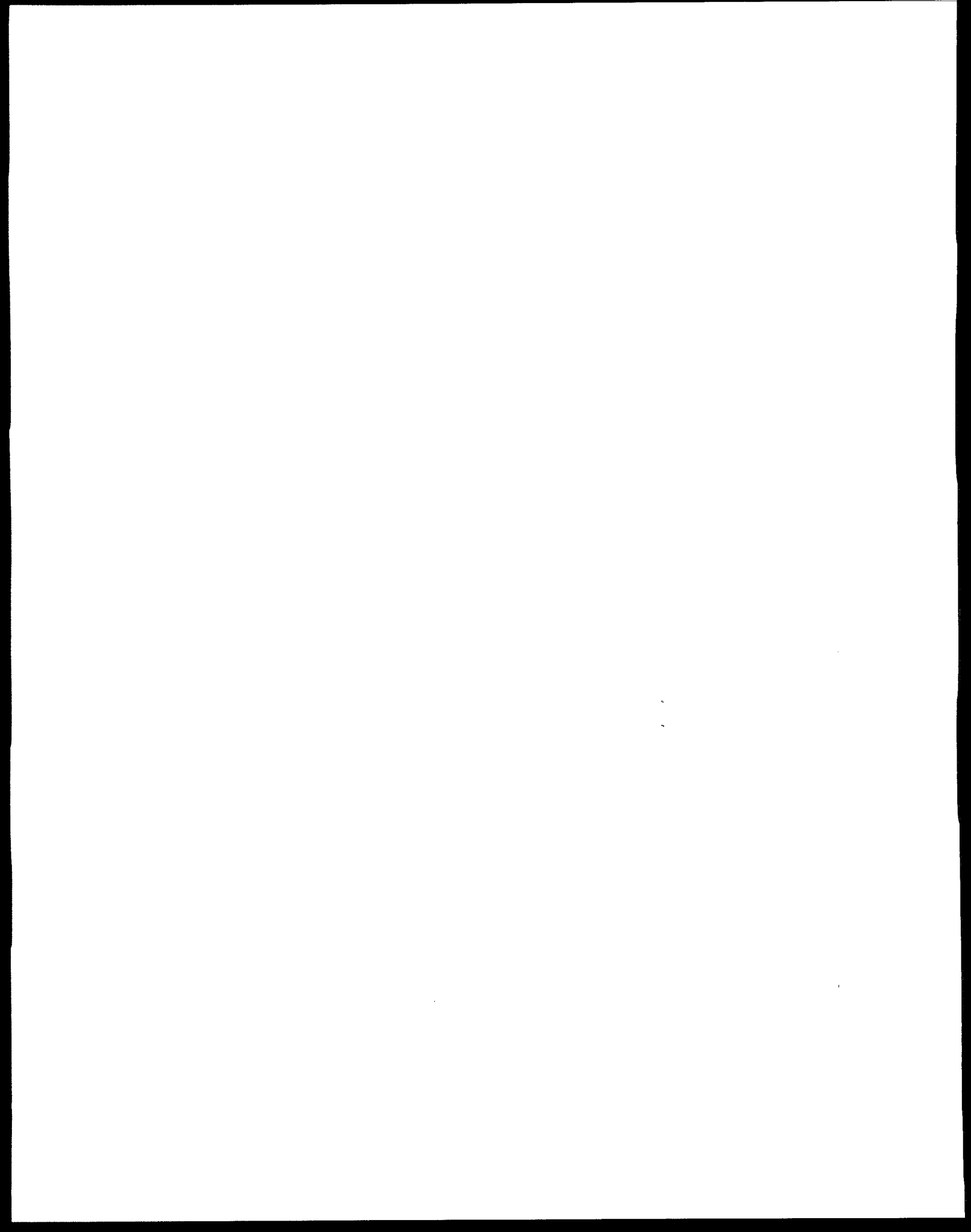
In addition to having information about actual violations of drinking water standards for treated drinking water, the nation also needs information on the occurrence of contaminants in our *sources* of drinking water. The SDWA Amendments of 1996 mandated that EPA prepare a National Contaminant Occurrence Database (NCOD) by 1999 that will contain information about the pollutants found in sources of drinking water. NCOD will draw on other databases from both inside EPA and from partners such as the U.S. Geological Survey, and will also include information from forthcoming State and Tribal source water assessments. The database will give both managers and the public information on the quality of water which is subsequently treated to become our drinking water.

The planned improvements to data in SDWIS/FED as well as the new data available in 1999 through the NCOD will give the public and the drinking water community a better picture of the quality of our drinking water.



# Appendix A

## Glossary of Terms





## Acute Contaminants

Short-term exposure to acute contaminants, such as bacteria, protozoa, viruses, and nitrate, may result in immediate illness and, in some cases, death.

## Administrative Order

Administrative orders are written documents, considered to be formal enforcement actions, which are issued by EPA or the States to address the noncompliance of a public water system, usually by means of a schedule with enforceable milestone dates.

## Bilateral Compliance Agreements

Bilateral compliance agreements are written documents, considered to be formal enforcement actions signed by the water system and EPA or the State. They contain a compliance schedule with enforceable milestone dates.

## Chronic Contaminants

Exposure to chronic contaminants, such as organic chemicals (volatile and synthetic), inorganic chemicals (e.g., metals, lead and copper) and radionuclides, may result in severe health effects that can recur frequently or develop slowly as a result of long-term exposure.

## Coliform Bacteria

Microorganisms found in nature, in any decaying substance and also in the intestinal tract of humans and animals. Their presence in water can indicate a lapse in treatment and potential contamination by pathogens.

## Community Water System

A community water system (CWS) is a public water system that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents (e.g., homes, apartments and condominiums that are occupied year-round as primary residences).

## Cryptosporidium

*Cryptosporidium* is a protozoa that causes the gastrointestinal disease *cryptosporidiosis*. The most serious, and sometimes deadly, consequences of *cryptosporidiosis* tend to be focused among members of the population with compromised immune systems.

## Disinfection

Disinfection is a type of drinking water treatment, where microbiological contamination is inactivated by using chlorine, chloramines, and chlorine dioxide or ozone.

## Inorganic Chemicals

These are non-carbon based, mostly naturally-occurring compounds, such as metals, nitrates, and asbestos. EPA has established MCLs for 15 inorganic contaminants.

## Lead and Copper Rule

Compliance with the Lead and Copper Rule indicates that a public water system has taken steps to minimize the risk of exposure to lead and copper from drinking water by monitoring for these contaminants and installing corrosion control where required.

## Maximum Contaminant Level

A maximum contaminant level (MCL) is the maximum permissible level of a contaminant in water delivered to any user of a public water system.

## Monitoring and Reporting

EPA established monitoring and reporting schedules, or contaminant-specific minimum testing schedules and operational reporting requirements, for public water systems.

## **Nitrate and Nitrite**

Nitrate and nitrite are inorganic compounds that can enter water supplies from fertilizer runoff and sanitary wastewater discharges. Nitrates in drinking water are associated with methemoglobinemia, or blue baby syndrome, where nitrate reduces the blood's ability to carry oxygen.

## **Non-transient Non-community Water System**

A non-transient non-community water system (NTNCWS) is a public water system that serves at least 25 of the same persons for over six months per year. A typical example of a non-transient non-community water system is a school or an office building that has its own water source, such as a drinking water well.

## **Notice of Violation**

A notice of violation (NOV) is a written document, usually considered to be a formal enforcement action, issued by EPA or the States regarding a public water system's violations of applicable drinking water standards or schedule requirements. The notice of violation specifically describes the violations and seeks a return to compliance.

## **Pathogens**

These are microorganisms (e.g., bacteria, viruses, or parasites) that can cause disease in humans and animals.

## **Public Water System**

A public water system (PWS) is a system that provides piped water for human consumption and serves at least 25 persons or has at least 15 service connections. A public water system can be either a community water system, a non-transient non-community water system, or a transient non-community water system.

## **Radionuclides**

Radioactive particles, such as radium-226, radium-228, gross alpha, and beta particle/ photon radioactivity, can occur naturally in water or may result from human activity. EPA has established MCLs for beta/photon emitters, alpha emitters, and combined radium 226/228.

## **Regional Offices**

Regional Offices are responsible for Environmental Protection Agency Regional programs within their respective jurisdictions. Regional Offices cooperate with Federal, State, interstate, and local agencies, as well as with industry, academic institutions, and other private groups to ensure that Regional needs are addressed and that Federal environmental laws are upheld.

## **Significant Monitoring Violations**

Section 1414 of the 1996 SDWA Amendments requires States and EPA to report on "significant" monitoring and reporting violations, as determined by the Administrator. For purposes of this report, "significant" monitoring violations are classes of monitoring violations reported to the Safe Drinking Water Information System (SDWIS/FED) that can be segregated from other monitoring violations reported to SDWIS/FED and must be listed in a State's annual report. These violations occur when, during a relevant compliance period, a public water system collects none of the samples or submits none of the reports required by a particular regulatory provision. Significant Monitoring Violations vary with different contaminant rules (e.g., Total Coliform Rule, Surface Water Treatment Rule, Lead and Copper Rule, Total Trihalomethanes, and Radionuclides).

## **Surface Water Treatment Rule**

Compliance with the Surface Water Treatment Rule (SWTR) indicates that a public water system has taken steps to reduce exposure to microbiological contamination through filtration and disinfection or disinfection and watershed control.

## **Total Coliform Rule**

The Total Coliform Rule establishes limits on coliform bacteria in water distribution systems. Although coliform bacteria usually are not pathogenic, they may indicate the presence of pathogens.

## **Transient Non-community Water System**

A transient non-community water system means a non-community water system that does not regularly serve at least 25 of the same persons over six months per year.

## **Treatment Technique**

These are treatment methods required by EPA to minimize the level of a contaminant in drinking water. In cases where EPA has determined it is not technically or economically feasible to establish an MCL, EPA can instead specify a treatment technique.

**TABLE A-1: SIGNIFICANT MONITORING VIOLATIONS  
FOR ANNUAL STATE PUBLIC WATER SYSTEM REPORTS**

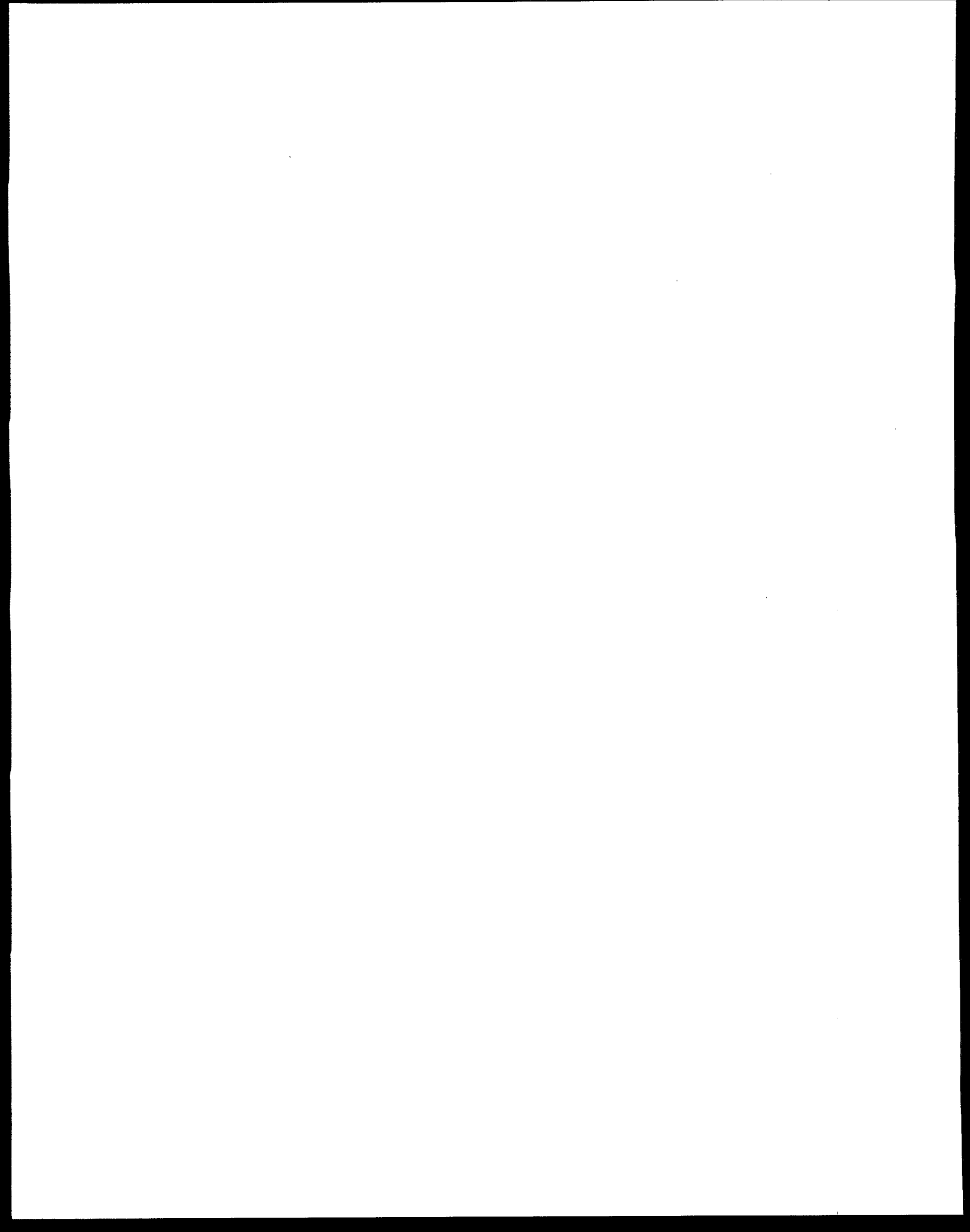
<b>Rule</b>	<b>Violation Type</b>	<b>Description</b>	<b>SDWIS Violation Code<sup>1</sup></b>	<b>SDWIS Contaminant Code</b>
<b>Total Coliform Rule</b>	Major routine	No samples collected during a compliance period	23	3100
	Major repeat	No follow-up samples collected after a positive total coliform sample or no speciation	25	3100
<b>Surface Water Treatment Rule</b>	Major (filtered)	Collected less than 90% of samples required during a compliance period	31	None
	Major (unfiltered)	Collected less than 90% of samples required during a compliance period	36	None
<b>Lead and Copper Rule</b>	Initial lead and copper tap	Failure to collect the initial tap samples followed by a failure to correct that omission within 3 months for large systems, 6 months for medium systems, and 12 months for small systems, or failure to submit the associated report	51	
	Follow-up or routine lead and copper tap	Failure to collect 1 or more required samples	52	
<b>Phase I, II, IIB, and V Rules</b>	Regular monitoring	Failed to collect any required samples <sup>2</sup>	By contaminant	
<b>Total Trihalomethanes</b>	Regular monitoring	Failed to collect any required samples	03	2950
<b>Radionuclides</b>	Regular monitoring	Failed to collect any required samples	03	4000, 4101, 4010

1 The Safe Drinking Water Information System (SDWIS/FED) makes no distinction between the sampling violations and the reporting violations associated with a sample collection requirement. Both violations are reported under the same SDWIS/FED violation code.

2 As described in the consolidated summary, failure to collect "any samples" means none of the required samples were collected.

## Appendix B

### Summary of State Annual Compliance Reports



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The U.S. Environmental Protection Agency (EPA) developed summaries from the State reports. Those summaries, which are included as this appendix, use a standardized format that includes an overall summary of the violations data specified in Section 1414 of the 1997 Safe Drinking Water Act (SDWA) Amendments (i.e., violations with respect to maximum contaminant levels (MCLs), treatment technique violations, significant monitoring and reporting requirements, and variance and exemptions).

EPA has not interpreted the data in this section and does not pass judgement on whether the States have fully reported all violations. EPA's evaluation of the State reports and compliance and data issues is discussed as part of the findings and recommendations in Section 2.

## Violations for 1997

MCL, treatment technique, and significant monitoring violations data were summarized into four categories:

- Violations of specific contaminant requirements
- Violations for the Total Coliform Rule
- Violations of the Surface Water Treatment Rule
- Violations for the Lead and Copper Rule.

Where data for violations or systems in violation are not available from the State

reports, data from the Federal version of the Safe Drinking Water Information System (SDWIS/FED) have been included.

The numbers of violations and the number of individual PWSs in violation for the State were summarized for these four categories for MCL, treatment technique, and significant monitoring requirements violations.

## 1997 Totals

The total number of systems, the total number of violations reported, and the total number of PWSs in violation in 1997 are also given.

## Systems in Violation

Systems in Violation is defined as the number of different systems with a reported violation of this type. If there is a possibility that the State has counted systems with various violations more than once, the number in the box is marked by the following symbol, ^ . If the state report did not include the number of systems in violation, the box is marked NR.

## Variances and Exemptions

There were no reported violations of variances and exemptions in 1997.

## Where to Obtain 1997 Annual Public Water Systems Report

Available information is provided on obtaining a copy of the State or Territorial report.

- 
- 1 For this report, "significant" monitoring and reporting violations occur when a public water system (PWS) collects none of the samples or submits none of the reports required by a particular regulatory provision, or collects less than 10% of the samples or submits less than 10% of the reports required by the Surface Water Treatment Rule. A comprehensive definition of significant monitoring and reporting violations including exceptions to the definition for the Total Coliform Rule and Lead and Copper Rule is included in the report glossary in Appendix A.
  - 2 MCL and significant monitoring violations for organic, inorganic, total trihalomethane (TTHM), nitrate and nitrite, and radionuclide contaminants.



**TABLE B-1: SUMMARY OF ELEMENTS REPORTED BY STATES**

State	Submitted Report	Reported On Violations Categories			Reported on V/E*	Report Identified Each System with MCL and TT Violations	Provided Information to Public on Availability	Report Provided Additional Information	Identified Size and Type of Violating Systems	Discussed Compliance and Enforcement Responses	Provided Inventory Information
		MCL	M/R	TT							
Alabama	X	X	X	X	X	X	X	X			X
Alaska	X	X	X	X		X				X	X
American Samoa											
Arizona	X	X	X	X							
Arkansas	X	X	X	X	X	X	X	X	X	X	X
California	X	X	X	X	X	X	X	X		X	
Colorado	X	X	X	X	X	X		X			X
Connecticut	X	X	X	X		X	X	X	X		X
District of Columbia	X	X	X	X	X	X	X	X	X	X	X
Delaware	X	X	X	X	X	X	X	X		X	X
Florida	X	X	X	X			X				
Georgia	X	X	X	X	X		X	X			
Guam											
Hawaii	X	X	X	X	X	X		X		X	
Idaho	X	X	X	X	X	X	X	X			X
Illinois	X	X	X	X		X	X	X			
Indiana	X	X	X	X		X	X	X	X	X	X
Iowa	X	X	X	X	X	X	X	X		X	X
Kansas	X	X	X	X		X	X	X			X
Kentucky	X	X	X	X	X	X		X			X
Louisiana	X					X	X	X	X		X
Maine	X	X	X	X	X	X		X		X	X
Maryland	X	X	X	X	X	X	X	X			X
Massachusetts	X	X	X	X	X	X	X				
Michigan	X	X	X	X	X	X	X	X	X		X
Minnesota	X	X	X	X	X	X	X	X	X		X
Mississippi	X				X	X				X	X
Missouri	X	X	X	X	X			X	X	X	X

State	Submitted Report	Reported On Violations Categories			Reported on V/E*	Report Identified Each System with MCL and TT Violations	Provided Information to Public on Availability	Report Provided Additional Information	Identified Size and Type of Violating Systems	Discussed Compliance and Enforcement Responses	Provided Inventory Information
		MCL	M/R	TT							
Montana	X	X	X	X	X		X	X			X
Nebraska	X	X	X	X	X		X	X		X	X
Nevada	X	X	X	X		X	X	X			X
New Hampshire	X	X	X	X	X	X	X		X		
New Jersey	X	X	X	X	X	X	X	X			X
New Mexico	X	X	X	X	X		X	X			X
New York	X	X	X	X	X	X	X	X			X
North Carolina	X	X	X	X		X	X		X		X
North Dakota	X	X	X	X	X	X	X	X	X		X
Northern Mariana Islands											
Ohio	X	X	X	X	X	X	X	X	X	X	X
Oklahoma	X	X	X	X	X	X		X		X	X
Oregon	X						X	X	X	X	X
Pennsylvania	X	X	X	X	X	X	X	X		X	X
Puerto Rico	X	X	X	X	X	X	X	X			
Rhode Island	X	X	X	X							
South Carolina	X	X	X	X	X	X	X	X	X	X	X
South Dakota	X	X	X	X	X		X	X	X		X
Tennessee	X	X	X	X	X	X	X	X			
Texas	X	X	X	X	X	X		X			X
Utah	X	X	X	X							
Vermont	X	X	X	X	X	X		X		X	X
Virgin Islands	X	X	X	X	X	X		X			
Virginia	X	X	X	X	X	X		X	X	X	X
Washington	X	X	X	X	X	X	X	X			X
West Virginia	X	X	X	X	X	X	X				X
Wisconsin	X	X	X	X	X	X	X	X	X	X	X
Wyoming	X	X	X	X	X	X		X			

# State of Alabama 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	2	2			190	NR
Total Coliform Rule	36	34			70	49
Surface Water Treatment Rule			4	1	NR	NR
Lead and Copper Rule			0	0	23	21

Total Number of Regulated Systems	770
Total Number of Systems in Violation	NR
Total Number of Violations	325

## Where to Obtain 1997 Annual State Public Water Systems Report

Alabama's State Report is available by accessing the State's Web site at [www.adem.state.al.us/viorep97.html](http://www.adem.state.al.us/viorep97.html) and by written request to ADEM, Water Supply Branch, P.O. Box 301463, Montgomery, Alabama 36130-1463 or at e-mail address [tsd@adem.state.al.us](mailto:tsd@adem.state.al.us).

# State of Alaska 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems In Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	6	4			2168	307
Total Coliform Rule	50	45			1323	626
Surface Water Treatment Rule			346	97	662	140
Lead and Copper Rule			0	0	310	274

Total Number of Regulated Systems	1695
Total Number of Systems in Violation	890
Total Number of Violations	4865

## Where to Obtain 1997 Annual State Public Water Systems Report

Alaska's State Report is available by accessing the State's Web site at [www.state.ak.us/local/akpages/ENV.CONSERV/deh/water/dwvio97.htm](http://www.state.ak.us/local/akpages/ENV.CONSERV/deh/water/dwvio97.htm) or by contacting James Weise, Drinking Water/Waste Water Program Manager, Department of Environmental Conservation, 555 Cordova Street, Anchorage, AK 99501, phone (907) 269-7647.

## American Samoa 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	0	0			0	0
Total Coliform Rule	0	0			0	0
Surface Water Treatment Rule			14	14	0	0
Lead and Copper Rule			0	0	0	0

Total Number of Regulated Systems	21
Total Number of Systems in Violation	14
Total Number of Violations	14

### Where to Obtain 1997 Annual State Public Water Systems Report

EPA generated these data from SDWIS/FED.

## State of Arizona 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	197	75			21,807	1185
Total Coliform Rule	205	149				
Surface Water Treatment Rule			23	7	208	20
Lead and Copper Rule			N/A	N/A	N/A	N/A

N/A = as reported by state

Total Number of Regulated Systems	NR
Total Number of Systems in Violation	NR
Total Number of Violations	425*

\* This number does not include Lead and Copper Rule violations since the State did not provide information in this category.

### Where to Obtain 1997 Annual State Public Water Systems Report

Arizona's State Report is available by contacting the Drinking Water Section, Arizona Department of Environmental Quality, 3033 N. Central, Room 200, Phoenix, AZ 85012-2809, phone (602) 270-4644.

# State of Arkansas 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	17	12			0	0
Total Coliform Rule	70	66			324	209
Surface Water Treatment Rule			87	29	70	36
Lead and Copper Rule			1	1	0	0

Total Number of Regulated Systems	1264
Total Number of Systems in Violation	NR
Total Number of Violations	569

## Where to Obtain 1997 Annual State Public Water Systems Report

Arkansas' State Report is available by accessing the State's Web site at [www.health.state.ar.us/eng/doe.htm](http://www.health.state.ar.us/eng/doe.htm) or by contacting Usman Patel at Arkansas Department of Health, Division of Engineering, 4815 West Markham, Little Rock, AR 72205-2032, phone (501) 661-2623, fax (501) 661-2032, or [upatel@mail.doh.state.ar.us](mailto:upatel@mail.doh.state.ar.us) (electronic mail).

## State of California 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	7	7 <sup>^</sup>			0	0
Total Coliform Rule	170	155			109	89
Surface Water Treatment Rule			64	63	0	0
Lead and Copper Rule			0	0	0	0

Total Number of Regulated Systems	8688*
Total Number of Systems in Violation	246
Total Number of Violations	350

\* 5000 PWSs are regulated by the counties in which they are located. The other 3688 are regulated by the state. Only data on the 3688 are included in the report.

### Where to Obtain 1997 Annual State Public Water Systems Report

California's State Report is available by contacting the State at California Department of Health Services, Division of Drinking Water and Environmental Management, phone (916) 323-6111.



# State of Colorado 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	19	14			76	74
Total Coliform Rule	65	45			455	331
Surface Water Treatment Rule			52	23	24	13
Lead and Copper Rule			5	4	26	26

Total Number of Regulated Systems	2217
Total Number of Systems in Violation	463
Total Number of Violations	722

## Where to Obtain 1997 Annual State Public Water Systems Report

Colorado's State Report is available by contacting the State at Compliance Monitoring-Data Management, WQCO-CMDM-B2, 4300 Cherry Creek Drive South, Denver, CO 80246-1530.

# State of Connecticut 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	17	10			2336	137
Total Coliform Rule	81	54			405	278
Surface Water Treatment Rule			10	10	0	0
Lead and Copper Rule			2	2	62	62

Total Number of Regulated Systems	4619
Total Number of Systems in Violation	418
Total Number of Violations	2913

## Where to Obtain 1997 Annual State Public Water Systems Report

Connecticut's State Report is available for review at the public library or at the Water Supplies Section, Department of Public Health, 450 Capitol Avenue, Hartford, CT 06134. To schedule an appointment to review this document at the Water Supplies Section call (860) 509-7333.

## State of Delaware 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	NA*	NA			NA	NA
Total Coliform Rule	43	39			NA	NA
Surface Water Treatment Rule			NA**	NA**	NA	NA
Lead and Copper Rule			NA	NA	55	34

\* State has set NA as the subtotal for these categories. However, based on review, there are numbers in the table that add to 48 violations.

\*\* State has set NA as the subtotal for these categories. However, based on review, there are numbers in the table that add to 1 violation at 1 system.

Total Number of Regulated Systems	563
Total Number of Systems in Violation	151
Total Number of Violations	147

### Where to Obtain 1997 Annual State Public Water Systems Report

Information on Delaware's public water systems may be found on the Internet in EPA's Envirofacts web page at the following address: [www.epa.gov/enviro/html/sdwis/sdwis\\_ov.html](http://www.epa.gov/enviro/html/sdwis/sdwis_ov.html). Delaware's State Report is available by contacting Ed Hallock or Chad Hall at the Division of Public Health, P.O. Box 639, Dover, DE 19903.

## District of Columbia 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	0	0			0	0
Total Coliform Rule	0	0			0	0
Surface Water Treatment Rule			0	0	0	0
Lead and Copper Rule			0	0	0	0

Total Number of Regulated Systems	2
Total Number of Systems in Violation	0
Total Number of Violations	0

### Where to Obtain 1997 Annual State Public Water Systems Report

The District of Columbia's State Report is available by contacting: George Rizzo, DC PWSS Program Manager, Drinking Water Branch (3WP22), U.S. EPA Region III, 1650 Arch Street, Philadelphia, PA 19103-2029, Telephone (215) 814-5781, Fax: (215) 814-2318, E-mail: rizzo.george@epamail.epa.gov.

# State of Florida 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	16	16^			248	8
Total Coliform Rule	359	311^			1282	940
Surface Water Treatment Rule			0	0	0	0
Lead and Copper Rule			1	1	4	4

Total Number of Regulated Systems	7000*
Total Number of Systems in Violation	1275^
Total Number of Violations	1920

\* This number is an approximation provided by the state.

## Where to Obtain 1997 Annual State Public Water Systems Report

Florida's State Report Summary, State rules, forms, and drinking water inventory are available by accessing the State's Web site ([www.dep.state.fl.us/water/Wf/dw/dw.htm](http://www.dep.state.fl.us/water/Wf/dw/dw.htm)).

# State of Georgia 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	2	2			313	247
Total Coliform Rule	180	130			618	455
Surface Water Treatment Rule			0	0	1	1
Lead and Copper Rule			0	0	49	49

Total Number of Regulated Systems	NR
Total Number of Systems in Violation	NR
Total Number of Violations	1163

## Where to Obtain 1997 Annual State Public Water Systems Report

Georgia's State Report is available by contacting Doug Davenport, Department of Natural Resources, Environmental Protection Division, Drinking Water Program, Information Management Unit, 205 Butler St., SE Suite 1362, Atlanta, GA 30334, Phone (404) 651-5162. Website: [www.dnr.state.ga.us/dnr/environ/](http://www.dnr.state.ga.us/dnr/environ/)

## Guam 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	0	0			0	0
Total Coliform Rule	0	0			0	0
Surface Water Treatment Rule			0	0	0	0
Lead and Copper Rule			0	0	0	0

Total Number of Regulated Systems	12
Total Number of Systems in Violation	0
Total Number of Violations	0

### Where to Obtain 1997 Annual State Public Water Systems Report

EPA generated these data from SDWIS/FED.

# State of Hawaii 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	0	0			0	0
Total Coliform Rule	5	4			1	1
Surface Water Treatment Rule			114	10	3	2
Lead and Copper Rule			0	0	0	0

Total Number of Regulated Systems	144
Total Number of Systems in Violation	15
Total Number of Violations	123

## Where to Obtain 1997 Annual State Public Water Systems Report

Hawaii's State Report is available by contacting William Wong at the Safe Drinking Water Branch, Department of Health, 919 Ala Moana Blvd., Room 300, Honolulu, HI 96814-4920, phone (808) 586-4258, fax (808) 586-4370, email (waterbill@aol.com).



## State of Idaho 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	0	0			420	NR
Total Coliform Rule	403	336			1090	676
Surface Water Treatment Rule			291	37	0	0
Lead and Copper Rule			NA	NA	NA	NA

Total Number of Regulated Systems	2088
Total Number of Systems in Violation	NR
Total Number of Violations	2204

### Where to Obtain 1997 Annual State Public Water Systems Report

Idaho's State Report is available by accessing the State's web site ([www.state.id.us/deq/water/acrsum.pdf](http://www.state.id.us/deq/water/acrsum.pdf)) and by contacting the Idaho Division of Environmental Quality's six Regional Offices or the State's seven district health departments.

# State of Illinois 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	272	152			2746	65
Total Coliform Rule	135	114			491	315
Surface Water Treatment Rule			5	5	10	6
Lead and Copper Rule			9	9	19	17

Total Number of Regulated Systems	6061
Total Number of Systems in Violation	576
Total Number of Violations	3673

## Where to Obtain 1997 Annual State Public Water Systems Report

Illinois' State Report is available by contacting the Illinois EPA's Division of Public Water Supplies, #13, P.O. Box 9276, Springfield, IL 62794-9276.

# State of Indiana 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	50	21			2526	701
Total Coliform Rule	250	221			2821	1579
Surface Water Treatment Rule			10	6	3	1
Lead and Copper Rule			0	0	62	57

Total Number of Regulated Systems	4287
Total Number of Systems in Violation	1783
Total Number of Violations	5722

## Where to Obtain 1997 Annual State Public Water Systems Report

Indiana's State Report is available via the Indiana Department of Environmental Management web-site at [www.ai.org/idem/owm/](http://www.ai.org/idem/owm/) or by contacting the Drinking Water Branch at (317) 308-3280.

## State of Iowa 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	67	36 <sup>^</sup>			31	22 <sup>^</sup>
Total Coliform Rule	128	109			80	28
Surface Water Treatment Rule			10	3	0	0
Lead and Copper Rule			8	8	27	23

Total Number of Regulated Systems	1920
Total Number of Systems in Violation	218 <sup>^</sup>
Total Number of Violations	351

### Where to Obtain 1997 Annual State Public Water Systems Report

Iowa's State Report is available by accessing the State's web site at [www.state.ia.us/government/dnr/organiza/epd/wtrsuply/pwscmp97.htm](http://www.state.ia.us/government/dnr/organiza/epd/wtrsuply/pwscmp97.htm) or by contacting the Iowa Department of Natural Resources, Water Supply Section, Wallace State Office Building, 900 East Grand Avenue, Des Moines, IA 50319-0034.

# State of Kansas 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	98	46			4	4
Total Coliform Rule	68	55			124	61
Surface Water Treatment Rule			21	14	12	8
Lead and Copper Rule			4	4	15	15

Total Number of Regulated Systems	1122
Total Number of Systems in Violation	228
Total Number of Violations	346

## Where to Obtain 1997 Annual State Public Water Systems Report

Kansas's State Report is available by accessing the State's web site at [www.state.ks.us/public/kdhe/bow.html](http://www.state.ks.us/public/kdhe/bow.html) or by contacting the State at Public Water Supply Section, Kansas Department of Health and Environment, Bldg. 283 Forbes Field, Topeka, KS 66620, Attn: Peter Armesto, phone (785) 296-6297.

# State of Kentucky 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	29	11			90*	54**
Total Coliform Rule	29	23^			136	49
Surface Water Treatment Rule			38	20	52	21
Lead and Copper Rule			0	0	0	0

\* State lists a subtotal of 90. Actual numbers add to 38.

\*\* State lists a subtotal of 54. Actual numbers add to 33.

Total Number of Regulated Systems	728
Total Number of Systems in Violation	203***
Total Number of Violations	157****

\*\*\* Number explicitly reported in narrative, although constituent numbers above do not yield this figure.

\*\*\*\* Sum of subtotals provided by the state.

## Where to Obtain 1997 Annual State Public Water Systems Report

Kentucky's State Report is available by accessing the State's Web site at [water.nr.state.ky.us/dow/compsum.htm](http://water.nr.state.ky.us/dow/compsum.htm) and contacting the Kentucky Division of Water, Drinking Water Branch, 14 Reilly Road, Ash Building, Frankfort, Kentucky, 40601, phone (502) 564-3410.

# State of Louisiana 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	NR	NR			NR	NR
Total Coliform Rule	288	227			22	5
Surface Water Treatment Rule			NR(3)	NR(3)	NR	NR
Lead and Copper Rule			0	0	0	0

The numbers in parentheses were not reported by the state. These numbers were derived through analysis of raw data submitted by the state.

Total Number of Regulated Systems	2000*
Total Number of Systems in Violation	244
Total Number of Violations	320**

\* This number is an estimate provided by the state.

\*\* This number, reported by the state, does not equal the number of violations found by counting them individually. That number is 252.

## Where to Obtain 1997 Annual State Public Water Systems Report

A specific source for obtaining a copy of this report has not been provided. General information on its availability may be obtained from: Division of Environmental and Health Services, Louisiana Department of Health and Hospital, Office of Public Health, P.O. Box 60630, New Orleans, LA 70160, phone (504) 568-5100.

# State of Maine 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	5	NR			50	NR
Total Coliform Rule	217	NR			1010	NR
Surface Water Treatment Rule	15	NR	26	NR	3	NR
Lead and Copper Rule	0	NR	0	0	26	NR

Total Number of Regulated Systems	2293
Total Number of Systems in Violation	NR
Total Number of Violations	1355

## Where to Obtain 1997 Annual State Public Water Systems Report

Maine's State Report is available by accessing the State's web site at [www.state.me.us/dhs/eng/water/water.htm](http://www.state.me.us/dhs/eng/water/water.htm) or by contacting the State at Drinking Water Program, 10 State House Station, Augusta, ME 04333, phone (207) 287-2070.



## State of Maryland 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	14	14			8	8
Total Coliform Rule	196	167			109	62
Surface Water Treatment Rule			60	12	0	0
Lead and Copper Rule			3	3	5	5

Total Number of Regulated Systems	3583
Total Number of Systems in Violation	NR
Total Number of Violations	409

### Where to Obtain 1997 Annual State Public Water Systems Report

Maryland's State Report and additional information on the Maryland program are available by contacting Nancy Reilman, MDE - Water Supply Program at (410) 631-3729.

# State of Massachusetts 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	5	5			5396	272
Total Coliform Rule	116	89			483	231
Surface Water Treatment Rule			56	56	1	1
Lead and Copper Rule			19	18	51	39

Total Number of Regulated Systems	1584
Total Number of Systems in Violation	552
Total Number of Violations	6127

## Where to Obtain 1997 Annual State Public Water Systems Report

A specific source for obtaining a copy of this report has not been provided. Additional information about the Massachusetts Drinking Water Program is available by accessing the state's web site ([www.magnet.state.ma.us/dep/brp/](http://www.magnet.state.ma.us/dep/brp/)). For specific questions on this report call the Massachusetts Drinking Water Program at (617) 292-5770.

## State of Michigan 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	24	23			1408	1182
Total Coliform Rule	508	413			3866	2723
Surface Water Treatment Rule			5	5	0	0
Lead and Copper Rule			0	0	284	242

Total Number of Regulated Systems	12,490*
Total Number of Systems in Violation	3681
Total Number of Violations	6095

\* This number is an approximation provided by the state.

### Where to Obtain 1997 Annual State Public Water Systems Report

Michigan State Report is available by accessing the Michigan Department of Environmental Quality, Drinking Water and Radiological Protection Division web page at [www.deq.state.mi.us/us/dwr/](http://www.deq.state.mi.us/us/dwr/). It can also be obtained by contacting the State at Michigan Department of Environmental Quality, Drinking Water & Radiological Protection Division, Lansing, MI 48909-8130.

# State of Minnesota 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	22	22			2	2
Total Coliform Rule	242	241			110	97
Surface Water Treatment Rule			16	14	13	12
Lead and Copper Rule			0	0	8	18

Total Number of Regulated Systems	8900
Total Number of Systems in Violation	381
Total Number of Violations	413

## Where to Obtain 1997 Annual State Public Water Systems Report

Minnesota's State Report is available by contacting the Drinking Water Protection Section, Minnesota Department of Health, Box 64875, St. Paul, MN 55164-0975.

## State of Mississippi 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	0	0			0	0
Total Coliform Rule	79	67			38	32
Surface Water Treatment Rule	0	0	NR	NR	0	0
Lead and Copper Rule	0	0	NR	NR	0	0

Total Number of Regulated Systems	1411
Total Number of Systems in Violation	97*
Total Number of Violations	117

\* Total calculated from raw data.

### Where to Obtain 1997 Annual State Public Water Systems Report

Mississippi's State Report is available by accessing the State's web site at [www.msdh.state.ms.us/OHR/watersup/wshome.htm](http://www.msdh.state.ms.us/OHR/watersup/wshome.htm) or by contacting the Mississippi State Department of Health, Water Supply Division, P.O. Box 1700, Jackson, MS 39215-1700.

# State of Missouri 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	9	9			434	106
Total Coliform Rule	408	265			1226	668
Surface Water Treatment Rule			8	4	0	0
Lead and Copper Rule			0	0	33	33

Total Number of Regulated Systems	2692
Total Number of Systems in Violation	923
Total Number of Violations	2075

## Where to Obtain 1997 Annual State Public Water Systems Report

Missouri's State Report and additional information regarding Missouri's PWSs are available by contacting the Missouri Department of Natural Resources, Public Drinking Water Program, P.O. Box 176, Jefferson City, MO 65102, phone (573) 751-5331.

# State of Montana 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	30*	NR			633	NR
Total Coliform Rule	125	125			1608	740
Surface Water Treatment Rule			218	38	524	32
Lead and Copper Rule			114	114	405	178

\* The state reported 30 violations; data provided by state actually add to 31.

Total Number of Regulated Systems	1950
Total Number of Systems in Violation	NR
Total Number of Violations	3658

## Where to Obtain 1997 Annual State Public Water Systems Report

Montana's State Report is available on the Montana Department of Environmental Quality's web site at [www.deq.mt.gov](http://www.deq.mt.gov) or by contacting the State at Montana Department of Environmental Quality, Box 200901, Helena, MT 59620-0901.

## State of Nebraska 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	27	24^			0	0
Total Coliform Rule	143	123^			113	98
Surface Water Treatment Rule			NR	NR	NR	NR
Lead and Copper Rule			NR	NR	NR	NR

Total Number of Regulated Systems	1340
Total Number of Systems in Violation	NR
Total Number of Violations	283

### Where to Obtain 1997 Annual State Public Water Systems Report

Nebraska's State Report is available by accessing the State's website ([www.hhs.state.ne.us/pws/pws7index.htm](http://www.hhs.state.ne.us/pws/pws7index.htm)) or by contacting the Nebraska Department of Health and Human Services, Regulation and Licensure, 301 Centennial Mall South, Lincoln, NE 68509, (402) 471-2541.



## State of Nevada 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	9	9			47	47
Total Coliform Rule	76	NR			124	113
Surface Water Treatment Rule			5	NR	0	0
Lead and Copper Rule			0	0	193	170

Total Number of Regulated Systems	NR
Total Number of Systems in Violation	NR
Total Number of Violations	457

### Where to Obtain 1997 Annual State Public Water Systems Report

Nevada's State Report is available by contacting the Nevada State Health Division at 1179 Fairview Drive, Suite 101, Carson City, Nevada 89701, or the full summary report may be viewed at county libraries throughout the State.

# State of New Hampshire 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	6	6			1770	152
Total Coliform Rule	184	153			237	164
Surface Water Treatment Rule			20	12	11	4
Lead and Copper Rule			0	0	7	7

Total Number of Regulated Systems	2144
Total Number of Systems in Violation	435
Total Number of Violations	2021

## Where to Obtain 1997 Annual State Public Water Systems Report

New Hampshire's State Report is available by contacting Laurie K. Cullerot at Department of Environmental Services, Water Supply Engineering Bureau, 6 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095.

# State of New Jersey 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	68	38			18,334	NR
Total Coliform Rule	137	109			2195	1216
Surface Water Treatment Rule			9	2	5	4
Lead and Copper Rule			0	0	18	9

Total Number of Regulated Systems	4712
Total Number of Systems in Violation	NR
Total Number of Violations	20,766

## Where to Obtain 1997 Annual State Public Water Systems Report

New Jersey's State Report and Drinking Water Standards chart are available by contacting the State at New Jersey Department of Environmental Protection, Bureau of Safe Drinking Water, P.O. Box 426, Trenton, NJ 08625-0426. The report will also be sent to the State library for distribution through its system, and to the county and local health officers.

# State of New Mexico 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	4	NR			1	1
Total Coliform Rule	124	96			267	175
Surface Water Treatment Rule			10	6	0	0
Lead and Copper Rule			0	0	1	6

Total Number of Regulated Systems	1376
Total Number of Systems in Violation	288
Total Number of Violations	407

## Where to Obtain 1997 Annual State Public Water Systems Report

A specific source for obtaining a copy of this report has not been provided. General information on its availability may be obtained from: Keith Melton, Program Manager, Drinking Water Program, New Mexico Environment Department, 525 Camino De Los Marquez, Suite 4, P.O. Box 26110, Santa Fe, New Mexico 87502, Phone (505) 827-7536, e-mail: keith\_melton@nmev.state.nm.us.

# State of New York 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	19	18			1027	1017
Total Coliform Rule	88	80			946	674
Surface Water Treatment Rule			108	80	0	0
Lead and Copper Rule			2	2	30	30

Total Number of Regulated Systems	10,740
Total Number of Systems in Violation	NR
Total Number of Violations	2220

## Where to Obtain 1997 Annual State Public Water Systems Report

New York's State Report is available by contacting the State at BPWSP - NYSDOH, 1215 Western Ave., Albany, NY 12203.

# State of North Carolina 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	19	NR			22,456*	NR
Total Coliform Rule	166	140			982	609
Surface Water Treatment Rule			3	3	0	0
Lead and Copper Rule			60	60	0	0

\* Some of the figures contributing to these totals were estimated by the state.

Total Number of Regulated Systems	8262
Total Number of Systems in Violation	NR
Total Number of Violations	23,686

## Where to Obtain 1997 Annual State Public Water Systems Report

North Carolina's State Report is available by contacting the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

# State of North Dakota 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	9	NR	1	1	9	9
Total Coliform Rule	37	28			133	93
Surface Water Treatment Rule			9	6	1	1
Lead and Copper Rule			3	3	4	4

Total Number of Regulated Systems	586
Total Number of Systems in Violation	NR
Total Number of Violations	198

## Where to Obtain 1997 Annual State Public Water Systems Report

North Dakota's State Report is available by contacting the North Dakota Department of Health, Division of Municipal Facilities, P.O. Box 5520, 1200 Missouri Avenue, Bismarck, ND 58506-5520, Attention: Jeni Walsh (701) 328-5231 (phone) or (701) 328-5200 (fax). A summary of the Report is available at the following website: [www.health.state.nd.us/ndhd/envIRON/mf/pubs/97acrsum.pdf](http://www.health.state.nd.us/ndhd/envIRON/mf/pubs/97acrsum.pdf).

# Northern Mariana Islands 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	0	0			0	0
Total Coliform Rule	0	0			0	0
Surface Water Treatment Rule			0	0	0	0
Lead and Copper Rule			0	0	0	0

Total Number of Regulated Systems	43
Total Number of Systems in Violation	0
Total Number of Violations	0

## Where to Obtain 1997 Annual State Public Water Systems Report

EPA generated these data from SDWIS/FED.



# State of Ohio 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	18	13			7538	1690
Total Coliform Rule	1541	756			2141	1371
Surface Water Treatment Rule			263	50	21	10
Lead and Copper Rule			15	15	256	248

Total Number of Regulated Systems	6137
Total Number of Systems in Violation	2911
Total Number of Violations	11,793

## Where to Obtain 1997 Annual State Public Water Systems Report

A summary of Ohio's State Report is available by writing to the State of Ohio at PWS Annual Compliance Report, Ohio EPA - DDAGW, P.O. Box 1049, Columbus, OH 43216-1049. In addition, this summary report has been posted on the Ohio EPA's website at [www.epa.state.oh.us/ddagw/annualreports.html](http://www.epa.state.oh.us/ddagw/annualreports.html).

## State of Oklahoma 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	132	NR			0	0
Total Coliform Rule	184	NR			431	253
Surface Water Treatment Rule			106	47	20	13
Lead and Copper Rule					NR	232

Total Number of Regulated Systems	1693*
Total Number of Systems in Violation	NR
Total Number of Violations	873

\* This is the total number of systems meeting the Federal definition of a PWS. The state reports a total of 2355 regulated systems, 662 of which do not meet the Federal definition of a PWS.

### Where to Obtain 1997 Annual State Public Water Systems Report

Oklahoma's State Report is available by contacting the State at Oklahoma Department of Environmental Quality Office at 1000 NE 10th Street, Oklahoma City, OK.

## State of Oregon 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	5	5			898	898
Total Coliform Rule	209	175			2273	1104
Surface Water Treatment Rule			248	88	361	83
Lead and Copper Rule			0	0	63	63

Total Number of Regulated Systems	2719
Total Number of Systems in Violation	1611
Total Number of Violations	4057

### Where to Obtain 1997 Annual State Public Water Systems Report

Oregon's State Report is available by contacting Diane Weis at the Oregon Health Division, 800 NE Oregon Street, Portland, OR 97232.

# State of Pennsylvania 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	94	74			5,805	633
Total Coliform Rule	158	131			1,232	925
Surface Water Treatment Rule			61	44	123	39
Lead and Copper Rule			2	2	51	195

Total Number of Regulated Systems	10,600
Total Number of Systems in Violation	NR
Total Number of Violations	7,211

## Where to Obtain 1997 Annual State Public Water Systems Report

Pennsylvania's State Report, the list of public water systems having MCL violations during 1997, and additional information about the Pennsylvania Safe Drinking Water Program are available by contacting: Department of Environmental Protection, Bureau of Water Supply Management, P.O. Box 8467, 11th Floor RCSOB, Harrisburg, PA 17105-8467, Phone (717) 787-5017. Website: [www.dep.state.pa.us/dep/deputate/watermgt/WSM/WSM\\_DWM/InfoServ/Comp\\_Rpt/PWS\\_CompRpt\\_97.htm](http://www.dep.state.pa.us/dep/deputate/watermgt/WSM/WSM_DWM/InfoServ/Comp_Rpt/PWS_CompRpt_97.htm)

# Puerto Rico 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	6	5			1123	NR
Total Coliform Rule	966	NR			1489	240
Surface Water Treatment Rule			400	NR	1106	NR
Lead and Copper Rule			0	0	48	43

Total Number of Regulated Systems	486
Total Number of Systems in Violation	NR
Total Number of Violations	5138

## Where to Obtain 1997 Annual State Public Water Systems Report

Puerto Rico's Report is available at the following addresses:

Department of Health  
Public Water Supply Supervision Program  
Ramon Fernandez Marina Hospital - Third Floor  
Bo. Monacillos, Rio Piedras, Puerto Rico

Department of Health  
Public Water Supply Supervision Program  
PO Box 70184  
Rio Piedras, Puerto Rico 00936  
Telephone: (787) 754-6010 or (787) 754-6370

# State of Rhode Island 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	1	1			1	1
Total Coliform Rule	22	19			17	13
Surface Water Treatment Rule			0	0	0	0
Lead and Copper Rule			0	0	1	1

Total Number of Regulated Systems	NR
Total Number of Systems in Violation	NR
Total Number of Violations	41

## Where to Obtain 1997 Annual State Public Water Systems Report

Additional information about Rhode Island's drinking water program is available on the State's website at [www.health.state.ri.us](http://www.health.state.ri.us) or by contacting the Rhode Island Department of Health, Office of Drinking Water Quality, 3 Capitol Hill, Room 209, Providence, RI 02908, phone (401) 222-6867.

## State of South Carolina 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	12	7			0	0
Total Coliform Rule	105	95			222	106
Surface Water Treatment Rule			10	10	6	3
Lead and Copper Rule			18	18	43	36

Total Number of Regulated Systems	1569
Total Number of Systems in Violation	234
Total Number of Violations	416

### Where to Obtain 1997 Annual State Public Water Systems Report

South Carolina's State Report and the 1996 report are available by contacting Ms. Angela Mettlen with SCDHEC's Bureau of Water at (803) 734-532 or by fax at (803) 734-4661 or by e-mail at [mettleag@columb32.dhec.state.sc.us](mailto:mettleag@columb32.dhec.state.sc.us) or by writing to 2600 Bull Street, Columbia, SC, 29201. The report will also be made available on the Internet through the EQC home page at [222.state.sc.us/dhec/pws97.htm](http://222.state.sc.us/dhec/pws97.htm).

# State of South Dakota 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	19	NR			323	NR
Total Coliform Rule	115	NR			287	153
Surface Water Treatment Rule			21	9	0	0
Lead and Copper Rule			0	0	13	NR

Total Number of Regulated Systems	756
Total Number of Systems in Violation	NR
Total Number of Violations	778

## Where to Obtain 1997 Annual State Public Water Systems Report

South Dakota's State Report is available by contacting the State at DENR, Drinking Water Program, 523 E. Capitol St., Pierre, SD 57501-3181.



# State of Tennessee 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems In Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	0	0			121	118^
Total Coliform Rule	64	57^			158	109
Surface Water Treatment Rule			159	25^	7	2
Lead and Copper Rule			0	0	7	7^

Total Number of Regulated Systems	1145
Total Number of Systems in Violation	318^
Total Number of Violations	515

## Where to Obtain 1997 Annual State Public Water Systems Report

Tennessee's State Report is available by contacting the Division Water Supply Central Office at: Division of Water Supply - Central Office, 401 Church Street, 6th Floor, L&C Tower, Nashville, TN 37423-1549, phone (615) 532-0152; or any of the six field offices: Division of Water Supply, Suite 550-State Office Building, 540 McCallie Avenue, Chattanooga, TN 37402-2013, phone (423) 634-5745; Division of Water Supply, 1221 South Willow, Cookeville, TN 38502, phone (931) 432-4015; Division of Water Supply, 362 Carriage House Drive, Jackson, TN 38305-2222, phone (901) 661-6200; Division of Water Supply, 2305 Silverdale Road, Johnson City, TN 37601-2162, phone (423) 854-5400; Division of Water Supply, Suite 220-State Plaza, 2700 Middlebrook Pike, Knoxville, TN 37219, phone (423) 594-6035; Division of Water Supply, 537 Brick Church Park Drive, Nashville, TN 37423-1550, phone (615) 226-6918. Copies of Tennessee's State Report are also located in each county health department and in most public libraries in Tennessee.

## State of Texas 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	157*	134			NA**	NA**
Total Coliform Rule	227	204			489	302
Surface Water Treatment Rule			36	25	266	77
Lead and Copper Rule			5	5	41	40

\* The state reported 157 violations, data provided by state actually add to 171.

\*\* Since the State conducts most chemical monitoring for the chemical rules, violations are minimal in this category.

Total Number of Regulated Systems	6757
Total Number of Systems in Violation	NR*
Total Number of Violations	1221

\* This number is derived by adding state totals from above. Data provided by state actually add to 1235.

### Where to Obtain 1997 Annual State Public Water Systems Report

A specific source for obtaining a copy of this report has not been provided. General information on its availability may be obtained from: Water Utilities Division, Texas Natural Resource Conservation Commission, P.O. Box 13087, Austin, TX 78711-3087, phone (512) 239-6020.

## State of Utah 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	15	NR			3323	NR
Total Coliform Rule	123	80			NA	NA
Surface Water Treatment Rule			11	2	36	3
Lead and Copper Rule			NA	NA	19	16

Total Number of Regulated Systems	NR
Total Number of Systems in Violation	NR
Total Number of Violations	3527

### Where to Obtain 1997 Annual State Public Water Systems Report

Utah's State Report is available by contacting the State at Utah Division of Drinking Water, P.O. Box 144830, Salt Lake City, UT 84114-4830, Attention: Ken Bousfield, phone (801) 536-4207.

## State of Vermont 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	4	NR			48	NR
Total Coliform Rule	70	50			222	157
Surface Water Treatment Rule			20	20	22	4
Lead and Copper Rule			10	10	134	134

Total Number of Regulated Systems	1426
Total Number of Systems in Violation	NR
Total Number of Violations	530

### Where to Obtain 1997 Annual State Public Water Systems Report

Vermont's State Report is available by contacting the State Water Supply Division, 103 S. Main St., Waterbury, VT 05671-0403, phone (802) 241-3400. It is also available on the Internet at the following address:  
[www.anr.state.vt.us/dec/watersup/vtrpt1997.pdf](http://www.anr.state.vt.us/dec/watersup/vtrpt1997.pdf).

## Virgin Islands 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	0	0			0	0
Total Coliform Rule	80	67			46	30
Surface Water Treatment Rule	NR	NR	0	0	0	0
Lead and Copper Rule			0	0	0	0

Total Number of Regulated Systems	460
Total Number of Systems in Violation	NR *
Total Number of Violations	125

\* This number was not reported by the state. Raw data provided by the state indicate 94 systems in violation.

### Where to Obtain 1997 Annual State Public Water Systems Report

The Virgin Islands Report can be obtained by contacting Austin Moorehead, Director, Division of Environmental Protection, Virgin Islands Department of Planning and Natural Resources, Building 111, Apartment 114, Watergut Homes, Christiansted, St. Croix, USVI, 00820, phone (340) 775-0565.

## State of Virginia 1997 PWS Compliance Report

### Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	5	NR			6	NR
Total Coliform Rule	131	98			357	214
Surface Water Treatment Rule			82	10	0	0
Lead and Copper Rule			0	0	9	32

Total Number of Regulated Systems	4145
Total Number of Systems in Violation	304
Total Number of Violations	590

### Where to Obtain 1997 Annual State Public Water Systems Report

A summary of Virginia's state report is available by accessing the following site: <http://www.vdh.state.va.us/owp/97report.htm>. A complete copy of the report may be obtained by contacting one of the 6 field offices: Office of Water Programs, Abingdon Field Office - Field 1, 454 East Main Street, Abingdon, VA 24210, phone (540) 676-5650 and fax (540) 676-5659; Office of Water Programs, Lexington Field Office - Field 2, 131 Walker Street, Lexington, VA 24450, phone (540) 463-7136 and fax (540) 463-3892; Office of Water Programs, Southeast Virginia Field Office - Field 3, 5700 Thurston Avenue - Suite 203, Virginia Beach, VA 23455, phone (757) 363-3876 and fax (757) 363-3955; Office of Water Programs, East Central Field Office - Field 4, 300 Turner Road, Richmond, VA 23225, phone (804) 674-2880 and fax (804) 674-2815; Office of Water Programs, Danville Field Office - Field 5, 1347 Piney Forest Road, Danville, VA 24540, phone (804) 836-8416 and fax (804) 836-8424; Office of Water Programs, Culpeper Field Office - Field 6, 400 South Main Street - 2nd Floor, Culpeper, VA 22701-3318, phone (540) 829-7340 and fax (540) 829-7337.

# State of Washington 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	NA*	NA			NA	NA
Total Coliform Rule	658	498			1570	883
Surface Water Treatment Rule			185	53	40	9
Lead and Copper Rule			NA	NA	61	61

\* NA = Not Available (as reported by the state)

Total Number of Regulated Systems	4204*
Total Number of Systems in Violation	1355
Total Number of Violations	2514

\* This is the number of systems meeting the Federal definition of a PWS. The state reports a total of 16,250 systems.

## Where to Obtain 1997 Annual State Public Water Systems Report

Washington's State Report is available by accessing the State's Website at [www.doh.wa.gov/ehp/dw/an\\_rpt97.doc](http://www.doh.wa.gov/ehp/dw/an_rpt97.doc) or by contacting the Department of Health, Division of Drinking Water, P.O. Box 47822, Olympia, Washington 98504-7822.

# State of West Virginia 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	1	1			448	291
Total Coliform Rule	115	84			472	201
Surface Water Treatment Rule			25	8	0	0
Lead and Copper Rule			0	0	80	73

Total Number of Regulated Systems	1501
Total Number of Systems in Violation	496
Total Number of Violations	>2916*

\* The state reports more than 2916 violations. Data provided by state actually add to 1141.

## Where to Obtain 1997 Annual State Public Water Systems Report

West Virginia's State Report is available by contacting the EPA's Safe Drinking Water Hotline at 1-800-426-4791.



# State of Wisconsin 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	86	75			2639	907
Total Coliform Rule	523	462			1085	996
Surface Water Treatment Rule			0	0	0	0
Lead and Copper Rule			6	6	143	133

Total Number of Regulated Systems	11,895
Total Number of Systems in Violation	1802
Total Number of Violations	4357

## Where to Obtain 1997 Annual State Public Water Systems Report

Washington's State Report is available by contacting the Bureau of Drinking Water and Groundwater, State of Wisconsin Department of Natural Resources, P.O. Box 7921, Madison, WI 53707, telephone (608) 266-6669.

# State of Wyoming 1997 PWS Compliance Report

## Violations for 1997

Violations Category	MCL		Treatment Technique		Significant Monitoring	
	Violations	Systems in Violation	Violations	Systems in Violation	Violations	Systems in Violation
Chemical Contaminant Group	0	0			195	NR
Total Coliform Rule	70	55			189	135
Surface Water Treatment Rule			48	18	5	4
Lead and Copper Rule			0	0	50	50

Total Number of Regulated Systems	800*
Total Number of Systems in Violation	NR
Total Number of Violations	557

\* This number is an approximation provided by the state.

## Where to Obtain 1997 Annual State Public Water Systems Report

Wyoming's State Report is available from: John Gillis, EPA Region 8, 999 18th Street, Suite 500, Denver, CO 80202-2466, phone (303) 312-6229.