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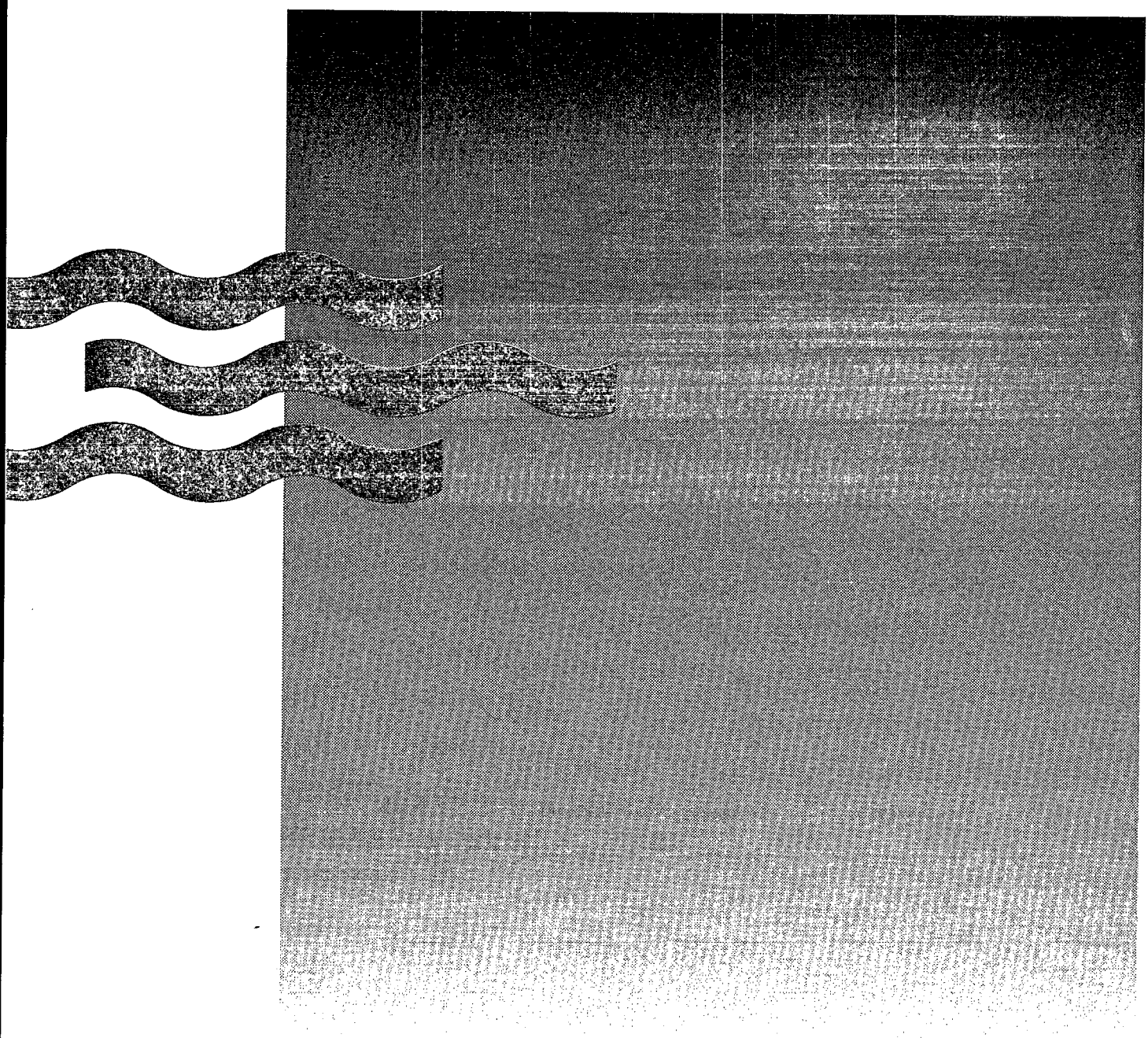
EPA

EPA's Ground Water and Drinking Water Program: Making a Difference



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EPA's Ground Water and Drinking Water Program: Making a Difference

Annual Report
October, 1992

A Message From the Director

Protecting the nation's ground water and ensuring the safety of our drinking water is at the heart of the Environmental Protection Agency (EPA) mission. In 1992, EPA revitalized its commitment to safeguard ground water—one of nature's finest gifts—and continued to make progress in fulfilling the promise of safe drinking water under the federal Safe Drinking Water Act. Through a partnership with states, local governments, water suppliers, and professional and citizen organizations, the vision of clean ground water and safe drinking water for all Americans is becoming a reality.

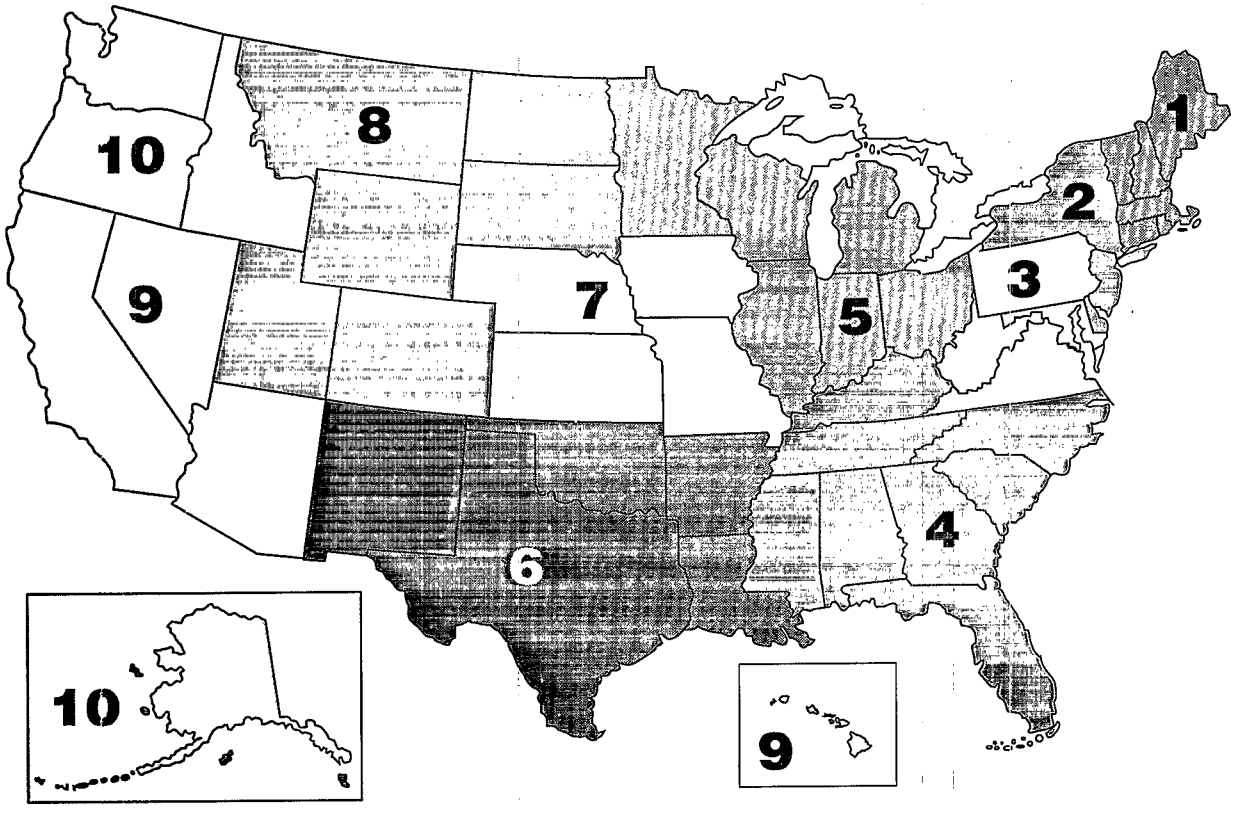
Making a Difference is the first Annual Report highlighting the successes of EPA's newly formed Office of Ground Water and Drinking Water and its counterparts in the EPA Regional Offices. The report chronicles a year of change and progress and describes plans for meeting the many important challenges facing the program.

Building on past accomplishments, our program is now tackling the most important remaining threats to ground water and drinking water. Continued success will depend on our ability to strengthen our partnership with the states and all of our "customers," including local ground water managers and water suppliers.

Ultimately, our customers are the people who demand safe, high-quality drinking water in their homes and expect sound stewardship of the nation's precious reserve of clean ground water. I look forward to the challenge of meeting these expectations and hope that this report helps to show how EPA's ground water and drinking water program is providing leadership in protecting our health and environment.

James R. Elder, Director
Office of Ground Water and
Drinking Water

EPA Regional Offices



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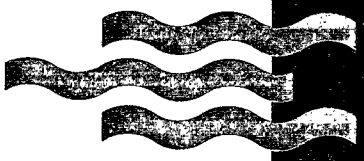


Introducing the Ground Water and Drinking Water Program

While many parts of the world are still plagued by the outbreak of waterborne diseases, most Americans take safe drinking water for granted. Yet the forces of nature combined with human activities in a modern, industrialized society present many threats to the quality of our drinking water supplies and the sustainability of our ground water resources.

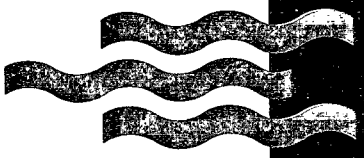
Allied with EPA's Regional Offices, EPA's Office of Ground Water and Drinking Water (OGWDW) is making a difference in protecting the nation's water supplies for today and the future. However, EPA's ground water and drinking water program is only part of the picture. Water quality depends on a partnership involving the federal government, states, local communities, and water suppliers.

EPA sets standards for drinking water quality and requirements for treatment under the federal Safe Drinking Water Act (SDWA). There are now 84 standards established to control both manmade and naturally occurring contaminants. Through the SDWA-authorized Public Water Supply Supervision program, all systems must comply with these standards and treatment requirements. In most cases, states have the primary responsibility for oversight and enforcement. EPA supports states through grants and technical assistance and, if necessary, enforces SDWA regulations.

To protect ground water, EPA is implementing its *Ground Water Strategy for the 1990s.* OGWDW and the Regional Offices are leaders in implementing this Agency-wide effort. The strategy emphasizes pollution prevention and draws upon federal environmental laws that control solid and hazardous waste, pesticides, surface waters, underground storage tanks, and waste cleanup as well as drinking water. As part of a new initiative, the Comprehensive State Ground Water Protection Program, states are beginning to integrate all federal and state programs that relate to ground water. To help build the foundation for this program, the Regional Offices awarded $12.2 million of Clean Water Act funds in 1992 through negotiated grant agreements with states.

Two prevention-oriented ground water programs — the wellhead protection program and the underground injection control (UIC) program — are authorized by the SDWA and implemented by OGWDW and the Regional Offices. The wellhead protection program helps states establish locally managed pollution prevention efforts in areas where water wells may be threatened. The UIC program regulates the disposal of waste through injection wells, thus preventing pollution.

ıtents



Protecting Public Health and the Environment

The ground water and drinking water program is making a significant difference in protecting public health and the environment. The program regulates 200,000 of the nation's public water supplies, controls underground injections in nearly a half-million wells, and with a renewed emphasis safeguards ground water, a growing source of drinking water and an important ecological resource.

Protecting Health

OGWDW establishes regulations to control contamination of drinking water provided by public water systems (see Figures 1 and 2). As a result of the regulations, waterborne diseases have been drastically reduced (see Table 1).

In 1992 the ground water and drinking water program focused on implementing the new lead and copper rule and the filtration and disinfection regulations for surface water systems. The Regions and OGWDW strengthened assistance to states and local water systems to achieve compliance with these and other rules and continued developing new regulations to meet the mandates of the SDWA.

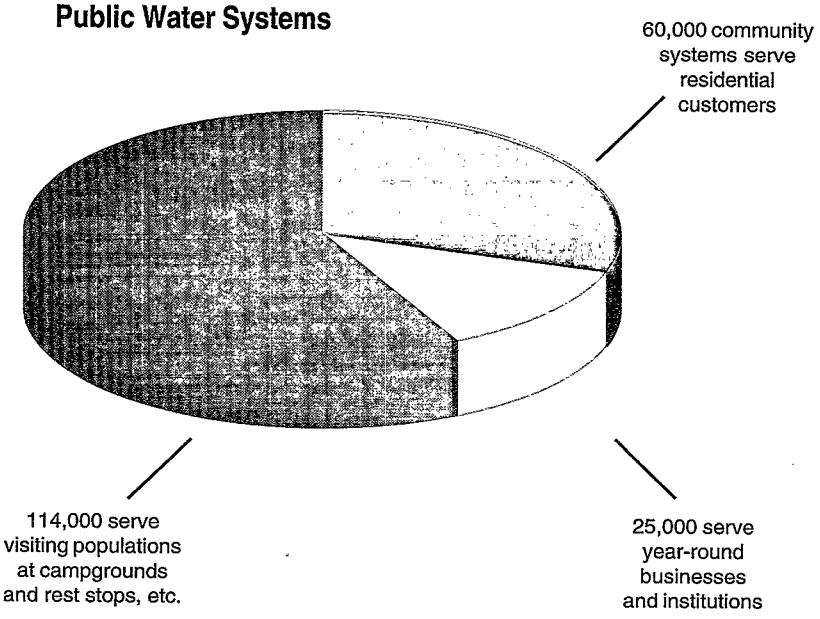
Lead and Copper

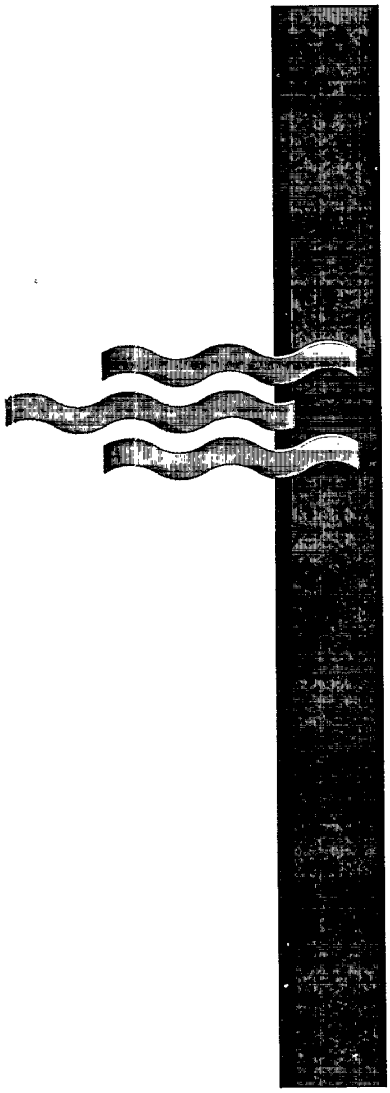
As a major program focus in 1992, the ground water and drinking water staff are working to get the lead and copper out of drinking water. In 1991, when EPA set new standards to reduce the level of lead in drinking water, Administrator Reilly announced that "approximately 600,000 children will have their blood lead content brought below our level of concern because of these standards." Lead in drinking water contributes approximately 20 percent of total lead exposure in young children and can cause a reduction in their IQ levels.

The new lead and copper rule requires public water suppliers to evaluate tap water, follow treatment requirements, install or improve corrosion control as needed, and educate the public about how to avoid high lead levels.

Because of the complexity of the rule, Regional Offices and OGWDW held implementation workshops in 1992 for all states, involving hundreds of state officials. In turn, several states have conducted workshops for public water system operators. OGWDW issued

Figure 1. Regulated Public Water Systems





monitoring and treatment guidance for operators of large, medium, and small public water systems, as well as guidance on the conduct of material surveys, corrosion control, monitoring, and public education.

In early 1992 the ground water and drinking water program notified all large water system operators in the country of their responsibility to start monitoring for lead and copper. Early returns from these operations indicate that many systems will need to reduce lead levels. To assure compliance with the lead and copper monitoring and treatment requirements, OGWDW issued enforcement guidance in the spring of 1992 that urges EPA and states to concentrate first on those systems presenting the greatest potential health risks from lead.

In addition to traditional implementation approaches, OGWDW and the Regions are using public education to protect public health. One highlight of the lead education effort is the Region V and Purdue University educational software program, "Lead Contamination Information System," being used to inform the public about lead contamination in drinking water. The program provides simple steps to help consumers minimize their exposure to waterborne lead.

Pathogens

Perhaps the most prevalent drinking water problem is the presence of disease-causing microorganisms in source wa To address this problem, the ground water and drinking water program is moving aggressively to implement th surface water treatment rule, which establishes criteria for filtration and disinfection of surface water systems. Filtration protects against pathogens pose a significant threat to public hea One of these pathogens, *Giardia*, caus severe gastrointestinal illness and ca lead to death from dehydration. The requirement for filtration, coupled wi the total coliform rule, is expected to eliminate more than 83,000 cases of il a year.

In 1992 states were required to deter which of their unfiltered surface wat systems would need filtration. Regio II, and X have the majority of the nati unfiltered water systems and were involved in helping the states make t determinations. EPA Regional Office have found indications that 75 perce the unfiltered systems serving 10,000 more people will be required to filter

Enforcement of the surface water trea ment rule will be a high priority as th requirement to filter becomes effectiv 1993. In preparation for 1993, OGW has already issued enforcement guid for use by Regions and states. In add Regional Offices are working closely states to respond to violations. For example, Region I staff assisted the S of Massachusetts to issue notices of violations to 33 systems and joint EP state letters have also been sent, notif systems of their obligation to comply surface water treatment requirement offering to work with systems to ens compliance.

Adoption of Rules

Adopting new rules poses a challeng states (see Section 3). After EPA pub tion of a new drinking water regulati states update their own state laws to reflect new federal directives. Once a adopts the new rules, EPA can grant authority, or primacy, to the state for implementing the federal law.

To encourage state primacy, OGWD and the Regional Offices are working state programs to adopt standards a regulations and enhance their enforc

Table 1. Estimated Health Benefits of Drinking Water Regulations

Lead and Copper Rule:	Protects an additional 600,000 children from unsafe lead levels
Surface Water Treatment Rule plus Total Coliform Rule:	Eliminates 83,000 illnesses
Organic and Inorganic Chemicals Regulations:	Prevents 400-700 cancer cases a year
Radionuclides Rule (Proposed) :	Will prevent 80 additional cancer cases a year

Regulatory Negotiations: A New Approach

To avoid the potential time and resources expended for litigation, several programs at EPA have used a collaborative decisionmaking process, negotiated rulemaking, to involve stakeholders in developing new rules. This process leads to rules that are agreed upon in advance by parties with often conflicting points of view. Drawing from the experiences that other EPA programs have had with this approach, OGWDW is exploring the use of regulatory negotiations for the disinfectants and disinfection by-products rule. OGWDW published a *Federal Register* notice in September of 1992 seeking public comment on the feasibility of using the negotiated process and held a public meeting with potential participants shortly thereafter.

A new approach was also used by the underground injection control program, where OGWDW established a federally chartered advisory committee to recommend changes to regulations for injection wells associated with oil and gas production. The committee, which included broad representation, recommended changes that will provide greater environmental protection.

nt and implementation capabilities. e pace of state adoption is a measure of ogress in implementing the SDWA. erefore, the Regions and OGWDW nsored workshops and worked closely h states to adopt regulations for nthetic organic chemicals (SOC) and rganic chemicals (IOC), a major phasis in 1992. Of the 15 states that opted the SOC/IOC regulation to date, adopted it in 1992. Table 2 outlines te progress in adopting the rules and eiving EPA approval for primacy.

ew Rules Development

May 1992, OGWDW issued drinking ter standards for an additional 23 ganic and inorganic contaminants, luding pesticides, some of which may se cancer.

further protect public water supplies, a ulation is under development to limit concentrations of disinfection by-oducts in drinking water systems. This ulation poses a unique dilemma for blic health protection. On one hand, infection is needed to control patho-ns that cause serious illness. On the er hand, by-products of the disinfec-n process may react with organic tter in the water to form cancer-using substances. It is a major challenge devise a rule that balances these risks d provides the greatest overall public alth protection.

Significant progress has been made on several other rules:

- A pre-draft ground water disinfection rule was issued to obtain early public comment prior to formal proposal. A computerized model is being used to help develop this rule.
- A new regulation on arsenic is now under development. Arsenic is a known human carcinogen found in water supplies primarily in the western part of the country.
- A regulation covering numerous synthetic organic and inorganic contaminants is scheduled for proposal in June 1993.
- Work is under way that will lead to the development of a final rule covering radionuclides. Currently OGWDW is reviewing more than 600 comments on the radionuclides rule proposed in July 1991.

The formulation of these regulations depends upon the expertise of OGWDW and other EPA staff. Components of the rules include health assessments, estimates of occurrence of illness throughout the United States, analytical methods for identifying the presence of contaminants in drinking water supplies, treatment technologies for reducing contaminant levels, and economic impact analyses for complying with regulatory requirements.

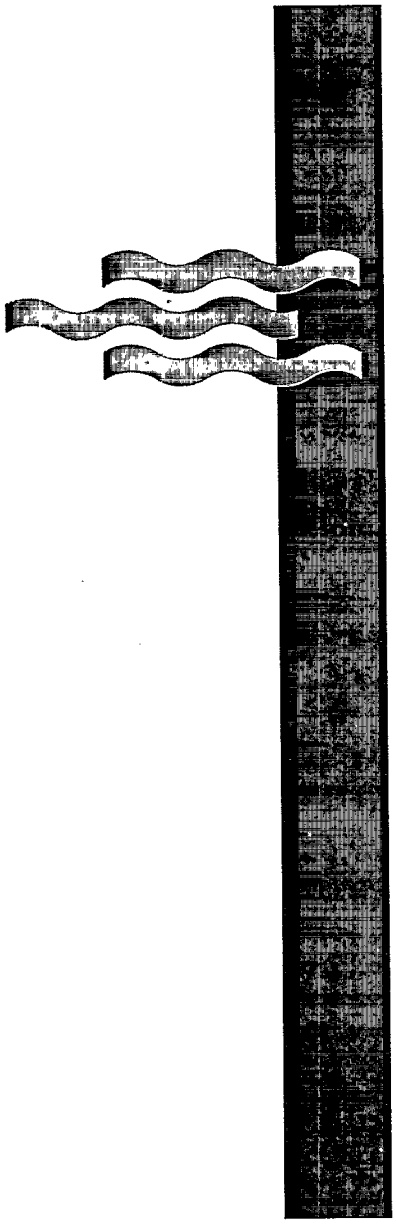
Safeguarding the Environment

Almost half of all Americans rely on ground water as their drinking water source, and the value of ground water for sustaining ecosystems is increasingly appreciated. At the same time, ground water is being threatened by contamination from poor agricultural practices, leaking underground storage tanks, faulty septic systems, improper landfills, misused injection wells, and other sources.

Table 2. National Primary Drinking Water Regulations: State Adoption/Primacy *

Rules	States Adopted (No.)	Total States w/Primacy (No.)	State Primacy Approvals in 1992 (No.)
Volatile Organic Chemicals (VOC)	55	40	10
Public Notification	55	39	12
Total Coliform	46	15	9
Surface Water Treatment	43	14	8
SOC/IOC	15	NA	NA
Lead/Copper	1	1	1

**includes U.S. territories and District of Columbia*



Because of growing concern over ground water contamination and the absence of a coordinated federal response mechanism, EPA published the *Ground Water Strategy for the 1990s* last year. The strategy emphasizes pollution prevention, integrates authorities under several laws, (see Figure 3) and fashions a comprehensive approach to protecting ground water resources. The centerpiece of the strategy is assistance and support to states in developing and implementing Comprehensive State Ground Water Protection Programs.

Integrating Programs

To promote integration under the *Strategy for the 1990s*, EPA established a "regulatory cluster" staffed by OGWDW to review all EPA regulations affecting ground water. In addition, a policy committee of high-level Headquarters and Regional Office managers was formed to guide overall implementation of the strategy.

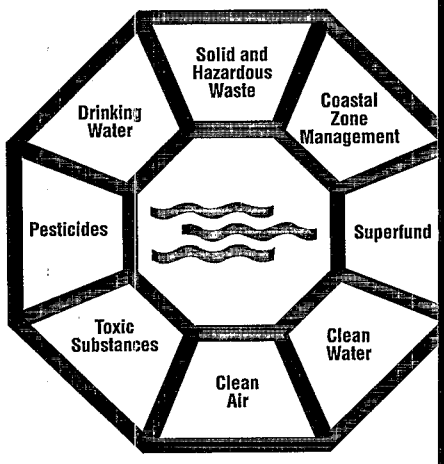
OGWDW is working through a new ground water "regulatory cluster" to incorporate Agency principles into regulations including, but not limited to, shallow well injection disposal of industrial and municipal wastewater, septic system drainfields, and automotive service station waste oils and solvents. As another part of the Agency's ground water integration efforts , ground water data collected under various environmental statutes are becoming more standardized.

The strategy calls for greater reliance on states to set priorities and guide implementation of EPA ground water laws. To accomplish this goal, the ground water and drinking water program assists in identifying threats to ground water and locating vulnerable areas.

Figure 2. Regulated Universe of Community Water Systems

Size of System	% Systems	%Population Served
Over 3,300 pop.	13%	89%
Under 3,300 pop.	87%	11%
Totals	**59,000**	**~232 million**

Figure 3. Integrated Laws Protecting Ground Water



Protecting Wellhead Areas

The aim of the wellhead protection program is to prevent pollution before it threatens ground water. Under the SDWA, states are charged with developing wellhead protection programs that reduce threats to ground water by identifying and managing recharge areas associated with wells or wellfields and addressing sources of contamination. Despite only limited federal financial assistance, 26 state programs have been approved (see Figure 4). Texas' innovative use of senior volunteers to assist in locating contaminated sources has become a model for communities nationwide. Arizona's program, the first approved statewide program in Region IX, is being used as a model to encourage other western states and territories to develop wellhead programs.

This year EPA Region II completed a pilot project in Cortland County, New York, that shows a successful integrated effort to protect ground water, by focusing primarily on wellhead protection. By coordinating with federal, state, and county officials, EPA enhanced local capacity and increased public awareness of aquifer vulnerability. The project

ded inspections of 127 injection ties, 15 solid waste landfills, 11 rground storage tanks, 13 spill sites, a number of potential and existing rfund sites. Moreover, a permanent raphic information system was loped. The success of this project has o similar Region II initiatives in other York counties.

trolling Underground ctions

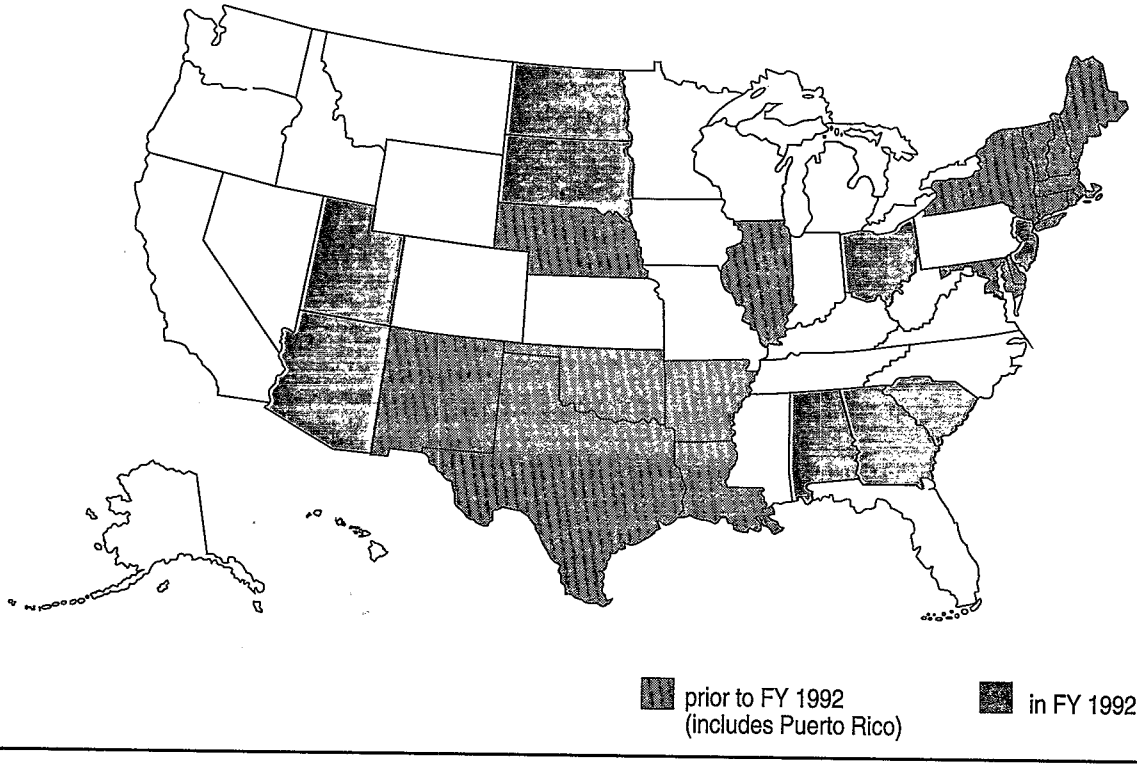
ugh the underground injection ol (UIC) program, EPA and states ge underground injection wells (see e 5) used for a variety of purposes, ding the disposal of hazardous and cipal waste and waste from oil and perations and mining. The program res that injection operations apply onmental safeguards that protect rground sources of drinking water Table 3).

Ground Water: A Valuable Resource

Ground water comprises more than 95 percent of the fresh water on earth (excluding the polar ice caps and glaciers). It provides drinking water for 40 to 50 percent of the United States population, supports approximately 40 percent of the surface water stream flow, and is vital for a variety of industrial, agricultural, and ecological uses. Despite its importance, debate continues on basic ground water management issues. Who "owns" ground water? Who is responsible for protecting it? For whose benefit?

While some of these issues may remain undecided for years, EPA has moved forward with its *Strategy for the 1990s*, which reaffirms the need for states to take a leadership role in identifying ground water priorities and guiding protection efforts. To be successful, states need to use the best available scientific tools, including up-to-date ground water assessment methodologies and data management systems. Through the support of research and conferences, such as the First International Conference on Ground Water Ecology held in April 1992 and a conference on the value of ground water held in October 1992, OGWDW is helping to advance understanding of ground water and of ways to protect it in society's best interest.

gure 4. States with EPA-Approved Wellhead Protection Programs



Currently the UIC program is revising rules for oil and gas operations to enhance safeguards on their operations. For the shallow injection wells, regulations are under development to help eliminate the disposal of industrial wastes and other potentially harmful practices, such as those involving service station drainage wells. The UIC effort also emphasizes OGWDW's interest in maximizing ground water protection through integration with waste programs under EPA's Office of Solid Waste.

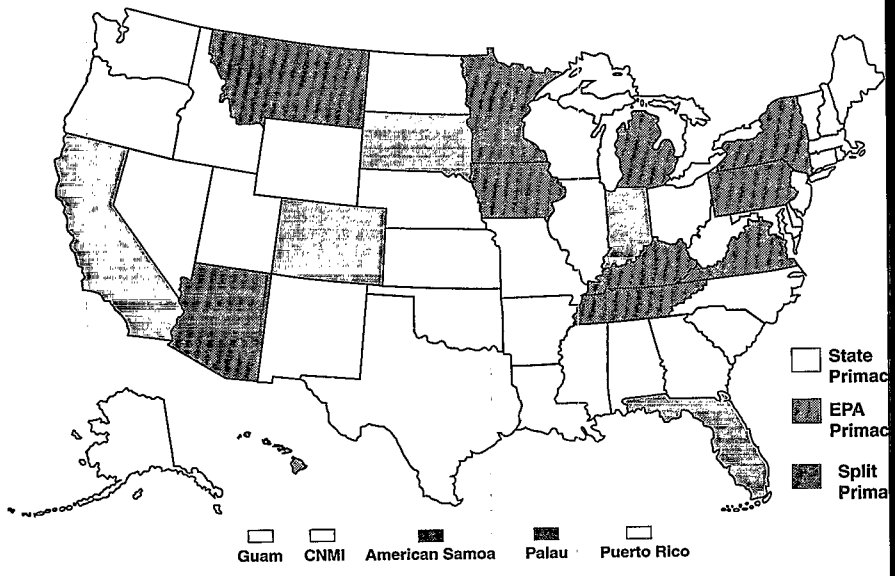
While new regulations are being developed, Regional Offices have initiated numerous ongoing shallow injection well activities including outreach, technical assistance, permit call-ins, and enforcement actions. All of these efforts focus on preventing pollution before it reaches drinking water supplies.

Among other 1992 accomplishments, OGWDW issued three major UIC guidance documents on follow-up procedures for mechanical integrity failure; operating, monitoring, and reporting requirements for commercial salt water disposal wells; and managing and monitoring oil and gas wells with a "temporarily abandoned" status. A final rule clarifying requirements for wells authorized by rule, financial responsibility, mechanical integrity, and data submittal is expected to be published early next year. In addition, EPA was upheld in a legal challenge to the approvals of no-migration petitions for Class I hazardous waste injection wells.

Table 3. UIC Regulations

Well Class	Type	Status
I	Hazardous wastes or industrial and municipal wastewaters	Regulated
II	Related to oil and gas production	Regulated
III	Solution mining and mineral extraction wastes	Regulated
IV	Shallow radioactive or hazardous wastes	Banned
V	Nonhazardous shallow injection well wastes	Regulations under development in 1992

Figure 5. EPA and State UIC Programs



Strengthening State and Indian Tribe Programs

The states are critical links between EPA's water quality requirements and the reality of safe drinking water and clean ground water for all Americans. The ground water and drinking water program helps states and Indian tribes develop the capability to implement and enforce programs that ensure high-quality water. To protect ground water, control improper underground injections, and ensure safe drinking water, the program provides grants, technical assistance and information, and training to state and Indian programs.

Protecting Ground Water

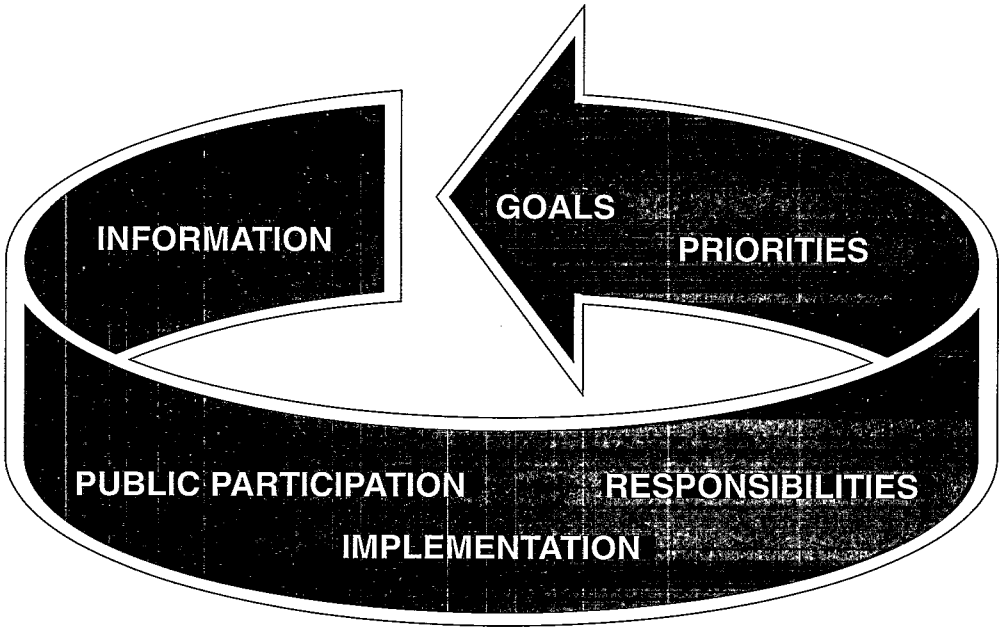
As part of the *Strategy for the 1990s*, EPA is beginning to actively assist states to take a comprehensive approach to preserving ground water resources. Recently EPA cooperated with states to profile and assess state activities to develop a baseline of information. This information will be used to identify gaps in protection programs. The Agency is now providing technical assistance to strengthen state programs, reviewing and approving wellhead protection programs submitted by states, and providing funding assistance to support ground water protection activities.

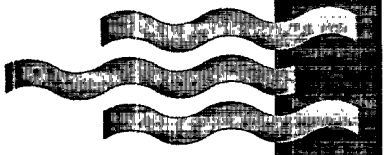
State Guidance

OGWDW and the Regional Offices kicked off the development of comprehensive state programs with a series of roundtable discussions among EPA and state officials. These discussions led to the 1992 draft *National Comprehensive State Ground Water Protection Program Guidance*, which describes coordination among all Agency ground water work and aims to protect the resource by preventing pollution. More than 700 state and Indian tribal officials participated in 13 meetings to develop guidelines that include setting goals and documenting progress, characterizing and setting priorities for ground water, developing and implementing prevention and control programs, and clarifying federal and state roles (see Figure 6). Hundreds of comments from states and other organizations are now being reviewed.

The intent of the guidance — to promote comprehensive ground water protection—is a concept already being

Figure 6. Comprehensive State Ground Water Protection





implemented under the pesticide and ground water state grant programs and by the Office of Water effort to protect watersheds. Ten states and two tribal governments are being selected for projects to demonstrate effective comprehensive ground water protection programs and to show the relationship between the comprehensive ground water protection and the watershed protection approaches.

State Ground Water Protection Programs

As part of its effort to assist state ground water protection programs, OGWDW developed case studies, produced training materials, held workshops on transportation-related sources of contamination, and developed a case study guide for planners. In addition, a special UIC grant program has accelerated integrated ground water protection efforts by states and Indian tribes. These projects are now showing successes such as improved operational controls and design criteria, new information systems, and techniques for using computerized geographic information. In Missoula, Montana, for example, a computerized data base of area shallow wells was established, with a special focus on wellhead protection areas.

Region VI awarded its first multimedia grant to the Cheyenne/Arapaho tribes of Oklahoma to protect ground water and to educate the public about how to protect wellheads. The tribes have already conducted inventories of contaminating sources and identified new well sites. They have also conducted workshops using tools for local government adapted to tribal needs and have educated students by producing informative book covers and "Kidswheels" on hazardous household products.

Other Regions also worked successfully with states during 1992:

- The Pennsylvania Ground Water Policy Education Project, which involves experts from Penn State University and leaders from the League of Women Voters, is educating the public and local officials while implementing ground water protection initiatives around the state.
- Through federal, state and local cooperation, West Virginia and Pennsylvania are successfully protecting ground water through coordinated pesticides manageme wellhead protection projects. Usi geographic information systems t target vulnerable areas, these pro serve as models on methods for determining areas of vulnerabilit applying best management practi
- The Idaho Ground Water Quality Plan was unanimously passed aft two years of concerted legislative effort. The comprehensive plan recognizes the importance of join federal, state, and local managem of ground water resources.
- Several Regional Offices are cooperating with states to modify "Farm*A*Syst," a joint EPA-Depa ment of Agriculture program to h farmers prevent pollution of grou water. Twenty states have active "Farm*A*Syst" program efforts u way; twenty more states have ex- pressed interest in starting progra
- The Region IV ground water and drinking water program has supp Alabama in a multi-agency environmental education initiativ "Legacy", which focuses on devel a K through 12 curriculum.

Controlling Underground Injection

To develop and demonstrate innova practices for managing and controlli shallow injection wells, the ground v and drinking water program award $1 million in grants for 25 demonstr projects to states, local communities universities.

Following are some examples of the innovative projects:

- Region VII is addressing problem related to unplugged injection we an effort to prevent pollution. Un plugged wells act as a direct conc for contaminants to enter ground water. It is estimated that as man 10,000 unplugged wells might ex one area of Kansas alone.

Region IX is supporting a multi-agency field study of increased salinity in the sandstone aquifer in the Aneth Oil Field area of the Navajo Nation. The $750,000 four-year study will help determine if the salinity is associated with the production of oil.

In an effort to combine underground injection control and ground water protection, Region VIII is funding a senior environmental employee to provide technical assistance to Colorado communities for developing wellhead protection. The employee is helping with an inventory of high-risk injection wells, an activity that will lead to either local closures or permits, as appropriate.

addition to funding innovative rojects, OGWDW and the Regions onsor technical assistance and educa- n programs. One program was directed ward Spanish-speaking inspectors. To ain these inspectors, the first ternational Spanish-language training urse on underground injection control as held in San Juan, Puerto Rico, in May 92.

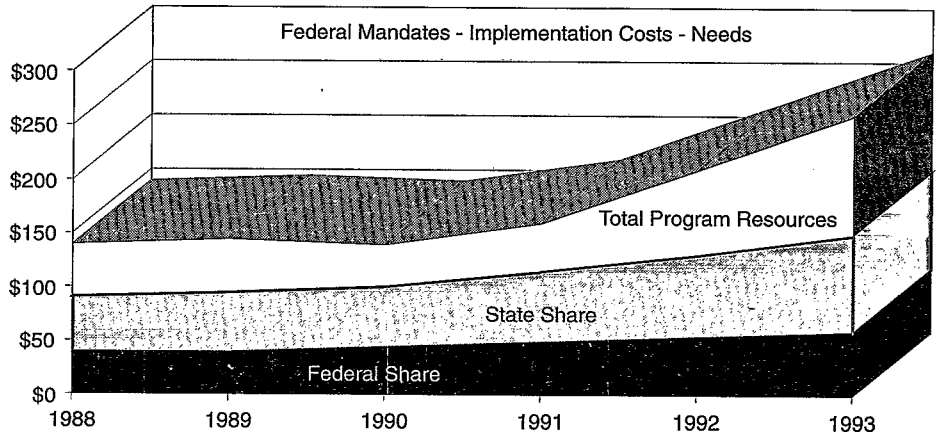
nproving Drinking Water rograms

elping states to implement new drinking ater requirements and retain primacy is op priority of the ground water and inking water program. To support state forts, the program is acting on four nts: increasing federal grants to states, pporting state efforts to increase pacity, setting priorities, and mobilizing tside resources.

ederal Grants to States

help states retain primacy and imple- ent new rules, OGWDW has increased nding for state programs. This is critical cause federal requirements are outpac- g state resources (see Figure 7). The gency's fiscal year 1992 budget to pport state public water supply grants almost $50 million. The fiscal year 1993 esidential request passed by Congress ntains an increase of almost $9 million, 18 percent, for state grants.

Figure 7. Federal Mandates Outpace State Drinking Water Program Resources



State Capacity Building

States are increasing their own funding for drinking water programs, as well as receiving increased federal grants. Most often they look to alternative funding mechanisms, such as user fees and service fees, to generate income. This year, even though 30 states are experiencing state-wide budget shortfalls, 20 states have sought additional funds for drinking water programs. EPA has been working through its mobilization strategy and other efforts to help states develop revenue sources and increase program capacity. So far, 14 states have won increases totaling about $18 million collectively (see Figure 8).

Maintaining Primacy

The ability of states to manage new requirements under the Safe Drinking Water Act is critical to the success of the program. The ground water and drinking water program, led by the Regions, is working with states as they adopt the rules into their own regulations. States, however, are finding it increasingly difficult to keep up with the new rules. Also working with the ground water and drinking water program are EPA's Offices of Enforcement and General Counsel, which are being consulted in case a state cannot meet minimum requirements and primacy is returned to EPA.

One of the major successes was reported by the State of Idaho, which retained primacy for the public water supply program after a two-year effort. State and EPA cooperative work that led to this result included an Association of State Drinking Water Agencies' assessment, a contractor budget needs assessment, additional EPA funds and staff support, and much work by Idaho's Drinking Water Advisory Committee and state environmental agency.

The Virginia Department of Health, for example, has been working with public interest groups to support both the retention of primacy and an alternative funding mechanism to pay for the drinking water program implementation. As a result, the legislature passed a fee bill that is expected to generate $1.7 million in 1993 and $2.8 million in 1994.

The ground water and drinking water program is also helping to build state capacity by investing in human resources. This is exemplified by OGWDW's 1992 award of 41 fellowships to state drinking water employees to enhance the capability of state agencies through job-focused academic credit for their career employees.

In addition, OGWDW has developed a national resource model to determine specific information about resource needs based on the cost of an activity. Through the model, states will be able to estimate costs and resources needed to run their public water supply program, and EPA will be able to assess needs nationwide.

Priority Setting

State costs are likely to continue to outpace both federal and state increases. To help states manage the workload while maintaining adequate public health protection, OGWDW has set priorities based on risk. In cooperation with Regions and states, OGWDW established risk-based goals for the public water supply program in June 1992. This approach focuses federal and state resources on the highest priorities for protecting public health and gives states time to develop additional resources for carrying out their programs. It also identifies the state functions that are critical for maintaining primacy.

Mobilization

The ground water and drinking water program is continuing its successful effort to mobilize outside resources and to facilitate partnerships among EPA, states, and other organizations. This year OGWDW and the Regional Offices streamlined and focused the mobilization strategy. The new strategy identifies three initiatives for concentration: state capacity, small systems, and public education. (See *State Capacity Building above* and *Helping Localities* below; many of these activities are organized as part of the mobilization effort.)

To spread the word, OGWDW published four issues of a new progress report that keeps members of the mobilization network in touch with one another and highlights successful efforts. In addition, case studies described in *Meeting the Challenge* focus on small system restructuring and viability. To date, more than 5,000 copies of two compendiums of *Meeting the Challenge* have been distributed to Regional Offices, states, localities, and organizations.

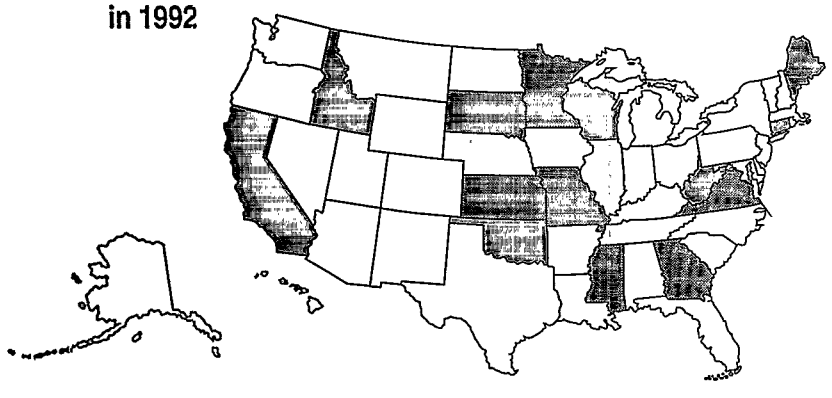
The mobilization coordinators in each Region facilitated the efforts of state advisory committees and task forces and industry and advocacy groups, which ar increasingly active in promoting state program priorities. Their efforts are reflected in the many successful activitie documented throughout this report.

Drinking Water Programs for Indian Tribes

EPA published rules in 1989 making it possible for Indian tribes to apply as states for primacy to run their own public water supply programs. This year, a series of ten educational workshops was concluded and $240,000 in development grants were given to tribes who have "state status" and are applying for primacy. Regional Offices have been actively supporting the efforts of these tribes to apply for primacy.

The Minnesota Chippewa Tribe, for example, with financial and technical assistance from Region V, is developing an implementation program for public water supplies on the reservation, and its laboratory is becoming certified for coliform and nitrate analysis. In addition, approximately 30 tribal drinking water utility managers and operators from more than a dozen tribes attended one of ten workshops sponsored by Region IX. The Standing Rock Sioux Tribe, the first to achieve "treatment as a state," has received three development grants from Region VIII. The next step is primacy for the tribe.

Figure 8. State Drinking Water Programs That Increased Funding in 1992



elping ocalities

The water supply industry spends more than $3 billion a year on water treatment, including compliance with regulations. But drinking water protection depends not only on water treatment; it also requires the protection of drinking water sources—watersheds, wellhead recharge areas, and other critical locations. OGWDW, Regions, and states have been helping communities around the country to comply with requirements for safe drinking water and to protect its sources. Technical assistance and training are at the heart of this support. Special assistance is targeted to small communities that lack the resources needed to comply with drinking water rules or implement ground water programs.

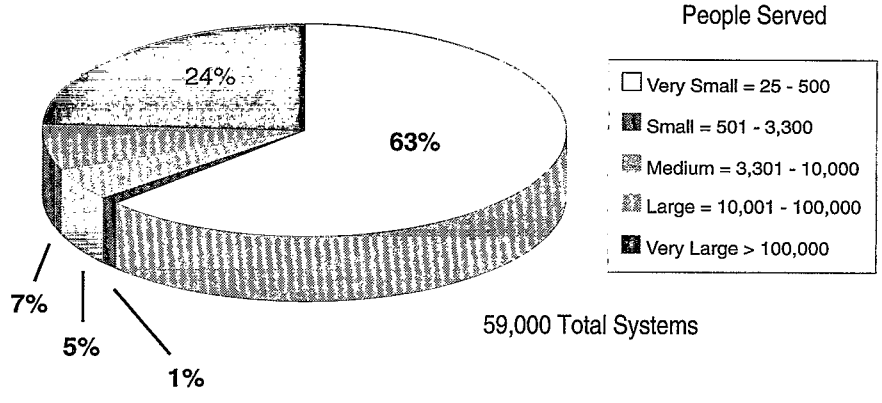
Attaining and Maintaining Compliance

Under the SDWA, both large and small systems must comply with rules established to protect public health. For small systems, compliance has proven to be a major challenge. Small and very small water systems serve less than 3,300 people and are often located in suburban and rural areas and in trailer parks (see Figure 9). About 87 percent of the systems supply drinking water to 11 percent of the population. The vast majority of systems are very small; therefore, as Figure 10 shows, most violators are very small systems.

Committed to ensuring safe drinking water for all Americans —no matter where they live— the ground water and drinking water program provides help for all systems. Grants and demonstration projects show how compliance can be achieved and help gain public support. For example, a demonstration project in Camden, New Jersey, to remove hexavalent chromium from wells received an EPA award of $600,000. This project led to a grant from New Jersey of $8.6 million to build a full-scale facility for removing hexavalent chromium from the city's water supply.

To improve small system compliance, restructuring and consolidation efforts are being promoted as a major emphasis of the mobilization strategy. For example, satellite or contract management—banding together of several communities to hire one trained operator, to consolidate data management and bookkeeping services, or to purchase supplies—can help reduce costs. In some cases, a complete restructuring may be needed;

Figure 9. Community Water System Size



the new *Restructuring Manual* outlines how to determine whether restructuring is needed and tells how to restructure. A restructuring brochure is now available as well.

Providing Technical Assistance, Training, and Education

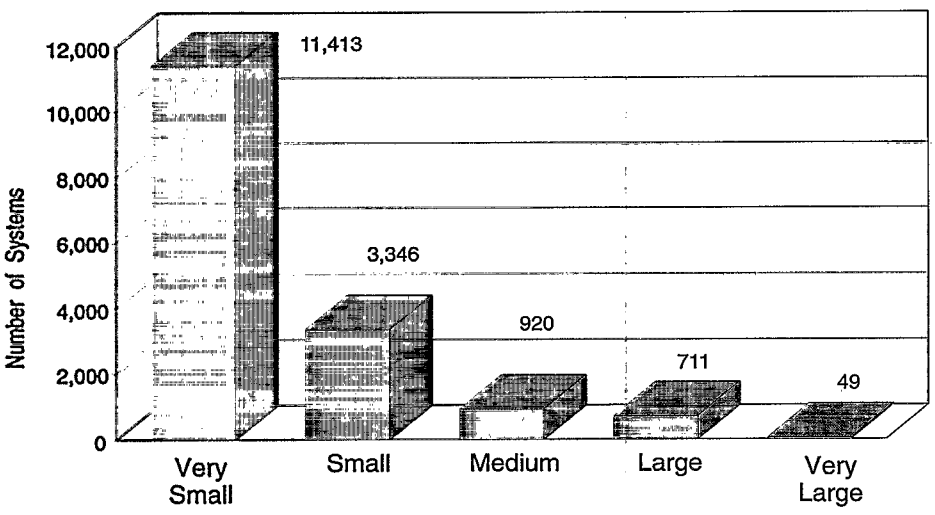
OGWDW has developed the Composite Correction Program (CPP), a systematic, comprehensive approach for identifying and correcting performance problems in surface water treatment plants. The CCP helps operators eliminate the causes of poor plant performance and minimize compliance costs by avoiding costly facility construction.

The CCP techniques, described in a 1992 handbook, have been introduced to EPA Regional Office and state drinking water managers through a series of seminars. After working with the OGWDW CCP team, several states have incorporated the CCP into their own programs. Current program focus is on expanding the CCP to additional states and to nonregulatory groups such as consulting firms and other technical assistance providers. Widespread use of CCP techniques would greatly improve compliance with the June 1993 surface water treatment requirements.

Putting It All Together

In Puerto Rico there are about 25 small rural systems with major compliance problems. To addres this, EPA has worked with Puer Rico to develop a strategy that combines enforcement, educatio technical assistance, and most recently financial assistance. Highlights in 1992 include a nev revolving loan fund through a public-private partnership with Pharmaceutical Industries Asso tion, the continued demonstrati of a slow sand filter process, a Spanish-language drinking wat curriculum for students K throu 12, and issuance of 40 bilateral compliance agreements. The initiative is making a difference Quarterly monitoring data for t systems are now being provide the Department of Health and t number of systems in complian showing steady improvement.

Figure10. Size of Community Water Systems In Violation (1991)



The National Training Coalition (N a joint effort of EPA and five associ tions—American Water Works Ass tion, Association of State Drinking Administrators, National Rural Wa Association, Rural Community Ass Program, and National Environme Training Association—to improve training for drinking water system operators and to create a communi and decision-making forum. The N developing training coalitions of d water system organizations respon for training in each state, beginning pilot projects in Maryland, Minnes and Washington. The NTC also pro a drinking water resources director material to assist in developing and conducting training.

In 1992 OGWDW helped water pla operators understand new require by distributing six new fact sheets water testing, lead and copper, VO SOC/IOC, total coliform, and surf water treatment. In conjunction wit variety of public and private group OGWDW is also educating the pub

t drinking water issues to help create ater willingness to support water increases. Because the average ehold water bill is only about $250 a —a small amount compared with r utilities—many systems are consid- rate increases to offset the cost of monitoring and treatment costs.

all System Assistance

t violations of SDWA requirements or failing to monitor or meet report- equirements rather than for exceed- rinking water standards (see Figure This is particularly true for small ms with fewer customers to share the cost of monitoring. Therefore under egulations, states have the flexibility low small suppliers to reduce itoring frequency.

WDW has initiated a monitoring cost y in response to concerns about the burdens of regulations on small ms. In addition, OGWDW is seeking -term funding solutions for drinking r projects through better coordina- mechanisms, working with the U.S. artment of Agriculture Rural elopment Administration and other ing agencies.

Special Publications for Small Systems

- *Helping Small Systems Comply with the Safe Drinking Water Act: The Role of Restructuring* is a brochure that briefly explains what small suppliers need to know about restructuring.
- *Obtaining Low Cost Technologies for Small Drinking Water Systems,* soon to be published, is a workbook that helps owners and operators of small drinking water systems evaluate, select, and obtain appropriate water treatment equipment for attaining and maintaining compliance with the SDWA.
- *Consensus Protocol for Evaluation and Acceptance of Alterate Surface Water Filtration Technologies in Small System Applications,* recently prepared by western states and supported by OGWDW, provides some uniformity in state approaches.
- *Guide for Conducting Contaminant Source Inventories for Public Drinking Water Supplies* helps state and local managers.
- *Pocket Sampling Guide* assists small system operators needing guidance on compliance monitoring sampling. It is printed on water-resistant paper.

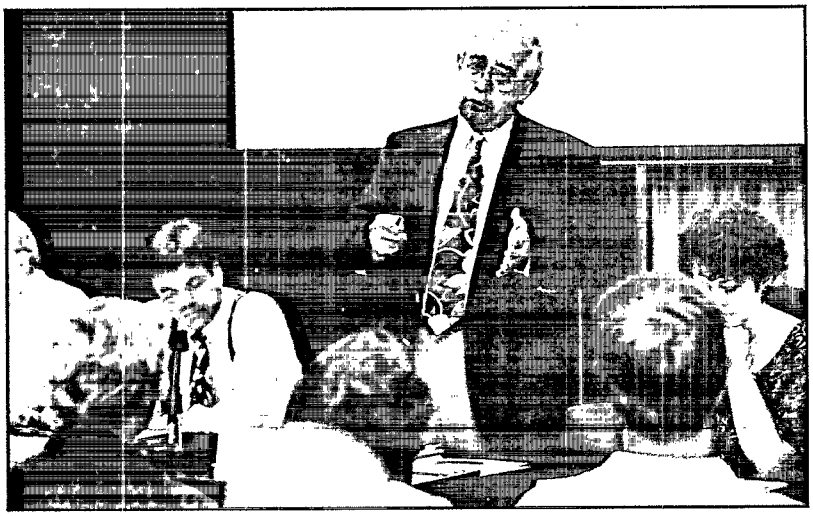
Two popular training manuals recently updated and reissued by OGWDW:

- *Manual of Small Public Water Supply Systems* provides practical assistance to small public systems.
- *Manual of Individual and Nonpublic Water Supply Systems* provides assistance to homeowners with private wells.

OGWDW continued during 1992 to provide training and on-site assistance to small drinking water systems through grants and cooperative efforts with associations that serve small suppliers:

- National Rural Water Association (NRWA) conducts training and technical assistance under a new three-year agreement with OGWDW that focuses on rural and small public and nonprofit water supply systems, including service to mobile home parks. During the past two years, NRWA and its state affiliates trained 75,000 people and produced 47 educational documents, reaching 48 states.

Figure 11. Most Violations Are For Failing To Monitor or Report



OGWDW's Bob Blanco discusses drinking water compliance issues in rural Oklahoma.

- Rural Community Assistance Program (RCAP) activities include technical assistance to drinking water systems in rural and low-income communities. RCAP has worked with state training coalitions to train small system operators. Under a new 1993 agreement, the focus is on three areas: compliance training for at least 128 noncompliant systems in 24 states, information and assistance addressing small systems and environmental equity and in-service training for RCAP field staff. In the last year, RCAP assisted morethan114 communities in 19 states and trained 860 people.

- This yearOGWDW began providing information to and coordinating activities with the National Drinking Water Clearinghouse and National Environmental Training Center for Small Communities at West Virginia University. They maintain a toll-free telephone (800-624-8301) for training information, provide databases and educational products, and collect and develop training resources.

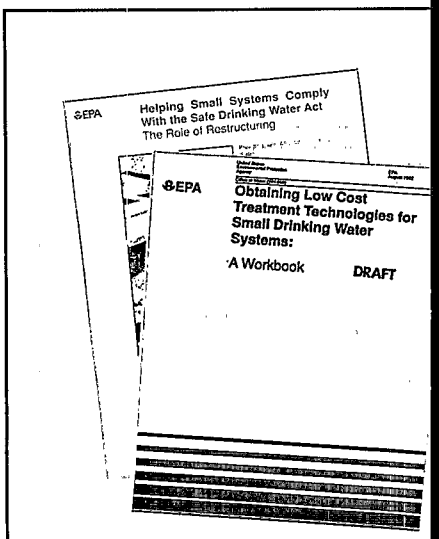
OGWDW has an active program to promote lower cost technology. The initiative uses private donations to demonstrate the application of conventional and new technologies to meet small system needs.

The Spicewood, Texas, demonstration was completed during the summer of 1992, and a final report containing operational and analytical data has been produced. In cooperation with industry and individual water systems, 11 demonstrations of the effectiveness of low-cost solutions for meeting drinking water standards are now in operation or starting up. A summary report covering all the projects will be developed when the individual projects are completed.

Supporting Ground Water Projects

In its first year of operation, the OGWDW-funded National Rural Water Association Ground Water/Wellhead Protection Program is a big success. More than 700,000 people are served by 410 communities that are developing and implementing their own programs. Of these communities, 163 are managing their own wellhead protection plans; 26 have contingency plans and are developing future plans. All are coordinated with state plans and with UIC, underground storage tank, and hazardous and solid waste programs.

Assisted by OGWDW and the Regional Offices, many local efforts to protect ground water are under way, including these examples:

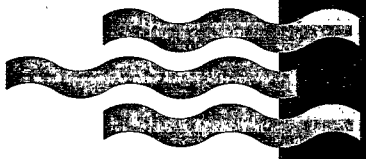


- The Region VI sole source aquifer program installed an innovative sewage treatment system at a Louisiana housing development.

- In Delaware, the state, Region III, a an agricultural processing firm are cooperating to develop wellhead protection in an area of high nitrat contamination.

To further support community endea $1.4 million was made available in 19 communities for wellhead protection demonstration projects. These awards go directly to local communities, ever states without EPA-approved wellhea protection programs.

Promoting Technical Excellence



The ground water and drinking water program commitment to safe drinking water requires that "safe water" be defined. Guidelines must tell how to test water to detect contaminants, how to recognize what levels of contaminants are too high to be safe, and how to turn this knowledge into action. A concerted effort among government and private-sector laboratories, researchers, and managers is necessary to promote and achieve technical excellence.

Improving Methods

As part of its efforts to examine the quality of data that underpin basic regulatory decisions, EPA is taking a closer look at how and why it generates chemistry data. EPA is also examining the method and form it requires others to use for similar information. Currently the Agency relies primarily on control-based methods—specified procedures that are expected to achieve desired results if followed precisely. Another approach now under consideration is a performance-based method, which would allow for the use of any procedure or instrument as long as the specified quality of results is achieved.

Collecting Data

EPA is developing data on the chemistry and toxicology of drinking water disinfectants used in place of chlorine, primarily ozone and chloramine and their reaction by-products. Soon many municipalities will consider using alternatives to chlorine for disinfection to avoid high levels of chlorinated disinfection by-products. Study of these alternatives is needed to guide their use and efficacy.

A field test of a new and unique EPA-developed computer model is being conducted with the American Water Works Association-Research Foundation. This first-of-its-kind study will assess levels of virus contamination in vulnerable ground waters. This information will be used to calculate disinfection requirements for the development of the ground water disinfection rule.

OGWDW, in partnership with other Agency offices, is focusing on ground water studies of subsurface transport and fate processes and agricultural processes that affect ground water. The results of this research will provide for better assessments of human exposure to ground water contamination. New approaches to managing ground water quality within wellhead protection areas, developing methods for detecting contaminants, and controlling underground injections are being explored.

The ground water program is working to improve ground water data collection through new guidelines specifying the type of data that should be reported. This and other efforts promote the use of geographic information systems.

In addition, OGWDW revised the *High Plains State Ground Water Recharge Demonstration Program, Quality Assurance/ Quality Control Plan* and completed a *Sole Source Aquifer Background Study Update.*

nnovative Testing Methods

GWDW staff is seeking better test methods and approaches for detecting ntaminants. In June 1992, EPA approved the Colilert test for *E. coli* detection. his is important because the total coliform rule requires that all coliform-ositive cultures be tested for either fecal coliforms or *E. coli*. Both are sub-roups of the total coliform group; their presence in drinking water is strong vidence of recent sewage contamination. The Colilert test was designed to etect both total coliforms and *E. coli* in a single test. The test is simple, inex-ensive, and quick. EPA previously approved the Colilert test for detecting tal coliforms under the total coliform rule and for enumeration of total oliforms under the surface water treatment rule. The 1992 approval allows for single test for both.

ecause test kits are quick, easy, and low-cost ways to determine drinking ater contamination, OGWDW is investigating their development. Using test ts can reduce monitoring costs, especially for smaller systems. Test kits for iazine pesticides appear to be particularly promising. OGWDW is exploring he possibility of certification of test kits by external groups and will develop rotocols for certification.

Certifying Laboratories

In cooperation with Regional Offices and state certification officers, three well-attended laboratory certification workshops have been conducted. The workshops provide an update on drinking water regulations under consideration as well as cited methodologies. The workshops, mostly self-supporting, are sponsored by the American Water Works Association and are of particular interest to those laboratory personnel who analyze water for compliance monitoring.

For the first time, Regional laboratory reviews are being conducted to improve program coordination. Five reviews were completed in 1992.

The *LabCert Bulletin* was published quarterly in 1992, updating methods and monitoring rules and other laboratory-related requirements. A key element of the laboratory certification effort, the bulletins are sent to Regional Offices, states, and the regulated community.

nforcing
e Rules

A vigorous enforcement program is critical for compliance under the SDWA. In 1992, enforcement became an even higher OGWDW priority. EPA takes enforcement action to supplement or strengthen state enforcement, or when states do not have primacy. OGWDW and the Regions work with states to improve their enforcement authorities and actions and to ensure that enforcement is a prominent component of their programs.

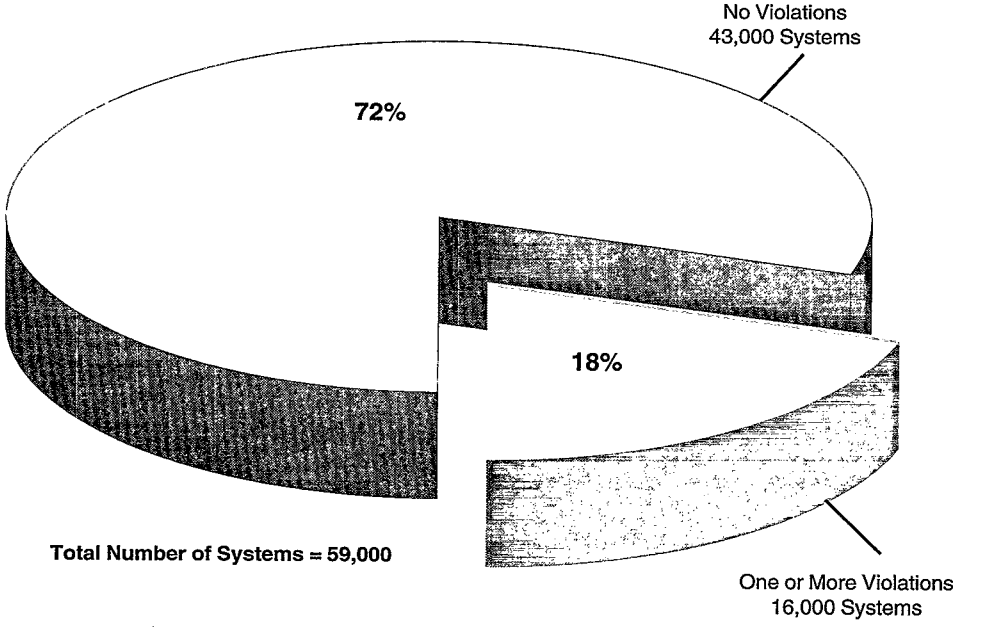
During 1992 OGWDW published important guidance for taking emergency action, worked with Regions to issue far-reaching UIC administrative orders, and improved SDWA enforcement capabilities. Highlights include developing guidance on the enforcement of the surface water treatment rule and reporting requirements, issuing an enforcement strategy for the lead and copper rule, and developing a settlement policy for the public water supply program.

As a result of EPA activities, the vast majority of Americans are served by community water systems that fully comply with EPA drinking water standards (see Figure 12). Of these violations, most fail to comply with monitoring and reporting requirements. By the year 2000, the ground water and drinking water program hopes to reach its goal of 95 percent compliance for community water systems.

Expedited Enforcement

Final guidance issued for emergency authority under the Safe Drinking Water Act, Section 1431, shows EPA's commitment to expedite action when risks are present or imminent. While still in an early stage, the new guidance has proven to be effective in fostering creative enforcement tools. For instance, using Section 1431 authority, EPA Region IV, issued its first drinking water emergency order to the Mt. Zion, Alabama, Water Authority, resulting in rapid compliance with the SDWA. The order required temporary provision of bottled water and led to the system's connection to a safe source of drinking water nearby. Regions III, VII, VIII and IX have also taken action under Section 1431.

Figure 12. Community Water System Quality (1991)



UIC Silver Medal Award Team: Back Row*(l. to r.)* : Frank Brock, UIC Section, F
Kurt Hildebrandt, UIC Section, Reg VII, ; Don Olson, UIC Compliance & Enforcer
Section, OGWDW; Glen Kedzie, UIC Compliance & Enforcement Section . **Fron
Row***(l. to r):* Karen Johnson, UIC Section, Reg III; Francoise Brasier, UIC Branc
OGWDW; William Reilly, Administrator, EPA; Susan Sullivan, Office of Enforcem

Addressing Highest Risks First

Risk-based priority setting is the guiding principle behind OGWDW's enforcement initiatives. On September 13, 1991, EPA issued unprecedented administrative orders on consent with ten major oil companies. These orders require extensive inventory information, cessation of injection, pollution prevention measures, extensive closures, and penalties totaling more than $800,000. Staff from Headquarters, Regions II, III, and V were critical to the success of this e and received EPA's Silver Medal A As a result, more than 1,700 service station bay drain wells that receive automotive-related wastes, like oil antifreeze, have been shut down. E monitoring compliance with this o and is assisting companies having difficulty in compliance.

In 1992 OGWDW began working w Regions and EPA's enforcement of another major enforcement initiativ involving shallow injection wells a service stations owned and operate oil companies. This team also bega working on federal government ve service stations. Settlement negotia are expected to be conducted during 1993.

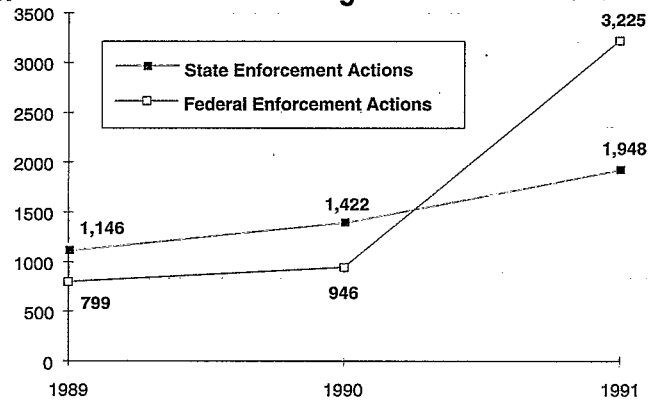
Table 4. Enforcement of UIC Program

Federal UIC Enforcement Summary	FISCAL YEAR 1992
Proposed AOs	138
Final AOs	76
Penalties Assessed	$241,857
Civil Referrals to Department of Justice	11

Using Civil and Criminal Authority

The use of civil and criminal penal been increasing in recent years. Ex include the following:

Figure 13. State and Federal Drinking Water Enforcement



e resolution of a major enforcement e in North Adams, Massachusetts, s year required the city to build a ration plant and pay $67,200 in nalties, setting an important cedent.

e Silver Bow Water Company in ntana is under court order to build ltration system after repeated bidity violations affected water plies for more than 30,000 people.

ying Data

oved data quality and data reporting ns are high priorities for the ground and drinking water program. EPA orked to identify and take action st systems that provide false data. xample, the owner of a mobile home submitted false laboratory informa- Region IX. Close scrutiny of the howed they had been "doctored," a e to which the owner pled guilty. In n I an investigatory strategy led to al cases of data falsification and le criminal charges. Efforts to audit data and ensure that compliance is tly determined have become singly visible.

ng Innovative Action

s Regional Offices have used a er of innovative approaches to ve compliance this year. For in- e, in an enforcement action taken by n X against a few small, nonviable systems near Granite Falls, Washington, an area-wide problem may have been solved. The orders allow the neighboring systems to consolidate and make other improvements that will lead to compliance. The systems are jointly considering restructuring options, including the formation of local utility districts.

Other examples of innovative enforcement actions are these:

- Region III has undertaken a major shallow well inspection program, conducting more than 550 inspections of industries in unsewered areas, issuing nearly 100 Notices of Violation, and closing 90 wells. Most of this work was conducted by senior environmental employees in Pennsylvania and Virginia.

- Region IV took enforcement action against oil company leases in Kentucky as a result of inspections under various authorities. The company has repeatedly violated environmental requirements and has impaired both underground sources of drinking water and surface waters. The case was referred to the Department of Justice; both compliance and cash penalties are being sought.

- In Region V, administrative orders for intermittent nitrate violations to public water supplies in Illinois include an option for wellhead protection and watershed management. This action will encourage a long-term solution to the problem of nitrate contamination in intensively farmed areas.

- Region VI recently negotiated a consent agreement that resolved an enforcement action against a Louisiana town. As part of the agreement, the town will tie about 50 private well owners to the municipal water system and will remove them from questionable drinking water sources.

- To require compliance of drinking water systmes at migrant labor camps, Region IX has issued notices of violation to camp owners and the California Department of Health. At this time, 68 of these systems are now in compliance, 34 are being addressed and several have been closed. Region IX also issued an administrative order against a major oil company for disposing of oil and gas wastes in unlined pits on the Navajo reservation.

Improving Enforcement Capability

During 1992, OGWDW increased its overall empasis on federal and state enforcement of Safe Drinking Water Act regulations (see Tables 4 and 5) by working with the Regional Offices and states—the front line of enforcement—to improve their effectiveness. In one recent effort, EPA and the Association of State Drinking Water Administrators sponsored an enforcement conference for state drinking water and attorneys general staffs. In support of underground injection control efforts, OGWDW held settlement policy training in Regions IV, VIII, and IX to help the staff negotiate underground injection control administrative cases. As shown in Figure 13, both federal and state enforcement has increased since 1989; however, state enforcement is progressing more slowly.

The program is committed to helping improve state enforcement actions. For example, OGWDW awarded a one-year grant to the Louisiana Rural Water Association to determine if training linked to enforcement is a viable tool in accelerating compliance. Louisiana will issue administrative orders to selected system operators, requiring them to attend a special training program designed to address small system compliance.

Table 5. Enforcement of Drinking Water Regulations

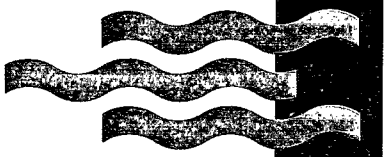
Federal Enforcement Summary Fiscal Year 1992

Notices of Violation	1485
Proposed Administrative Orders (AOs)	539
Final AOs	352
Complaints for Penalty	32
Civil Referrals to Dep't of Justice	5

Operators who fail to attend or whos systems remain noncompliant will be penalized.

To improve assistance to systems and alert them to existing or potential vio tions, Region V is developing a data management system that provides violation detection and response info tion for the Regional Office and state public water supply programs. The system maintains public water syste inventories and tracks compliance fo total coliform and surface water treat rules and soon will track compliance other contaminants. Beyond improvi enforcement, this automation helps educate small water supply operator

Providing International Assistance



The protection of ground water and drinking water has become an important component of United States international assistance programs. Because relatively small investments in basic drinking water treatment can result in significant improvement in human health in developing areas, helping the countries of Central and Eastern Europe and other developing regions to improve their environmental protection programs complements broader United States efforts to promote democratization and economic development.

In 1992, OGWDW spearheaded water program efforts in assisting the Agency for International Development-funded projects in Poland, Hungary, and Bulgaria. Assistance to the Czech and Slovak Republics, Romania, and Ukraine also was outlined. Projects are selected on the basis of overall support to program goals that include

- Building strong institutions for prevention, control, and remediation of surface and ground water pollution.
- Transferring appropriate technologies and management concepts.
- Serving as a well-respected partner in the overall United States program aimed at economic restructuring and quality of life improvements in the region.

A few of the most noteworthy projects, carried out with active staff support from the Regional Water Management Divisions and the EPA Office of International Activities (OIA), include the following:

- Providing drinking water and wastewater treatment equipment for Krakow, Poland (with the Office of Wastewater Enforcement and Compliance). Technical studies and specifications for over $2 million on ozonation equipment and support were initiated.
- Establishing the Water Technical Exchange Program, which pairs United States specialists and water utilities with their counterparts in Central and Eastern Europe to provide solutions for critical technical and managerial problems. Through cooperative agreements with the Water for People program of the American Water Works Association and the Water Environment Federation, the United States is tapping an extensive network of volunteer experts. Exchanges are being established to cover water utility management treatment technology, monitoring strategies, and wellhead protection.
- Providing support to the Danube River Basin Task Force, in cooperation with riparian countries, the World Bank, the European Bank for Reconstruction and Development, and other donors. The EPA role has been to help focus investments by these donors on subbasins and facilities with the greatest potential for avoiding health risks. A framework for assessing general impacts, including drinking water, is being established.
- Helping OIA and Central and Eastern European environment ministries on wetlands reconstruction activities near Tata, Hungary, and on water quality management for the Mazurian Lakes region in Poland.
- Assisting in the establishment of the Poland Agricultural and Water Quality Protection Project with Region VII. In-field demonstration sites are being set up in Szczecin and Ostrolenka, Poland, where watershed protection principles are being used to protect surface and subsurface drinking water sources. This project has also served as a focus for coordination and leveraging of Department of Agriculture endeavors in Central and Eastern Europe.
- Regions VI and IX assumed an active role in developing the Integrated Border Plan for addressing ground water-related concerns along the Mexican-United States border.

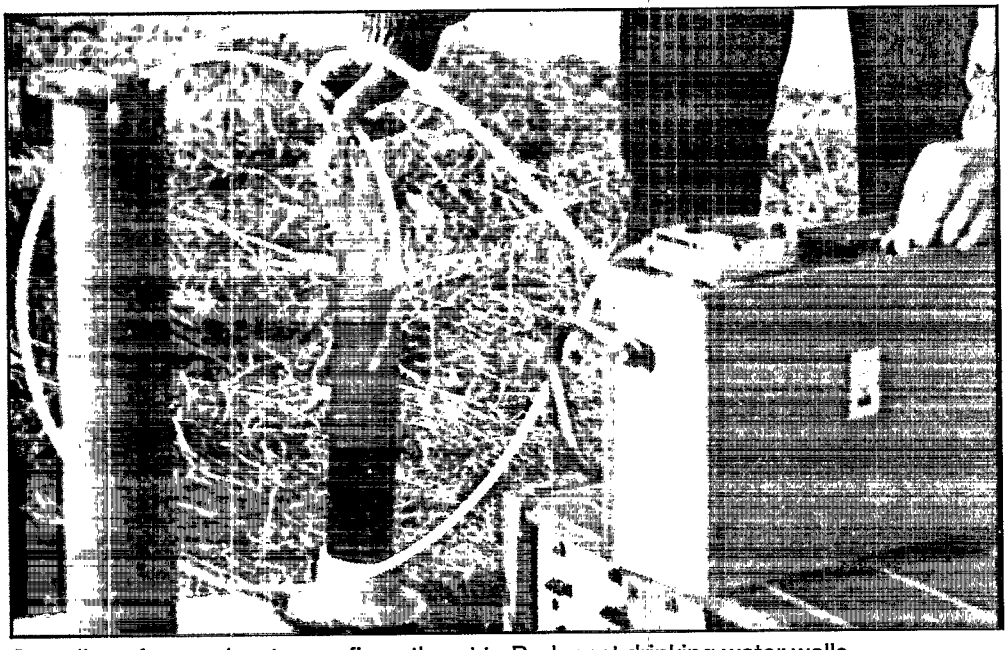
This year has seen the growth of OGWDW support in arenas beyond Central and Eastern Europe. EPA drinking water standards experts are well connected with their counterparts in the World Health Organization (WHO) and other groups. This year special attention was placed on WHO's guidelines and their implications for analytical methods and treatment technologies; OGWDW served as the only consultant to WHO at a

major workshop in the United Kingdom. Other examples of efforts in Western Europe include OGWDW participation in major meetings with French water utility specialists and regulatory officials and with the European Community on enforcement. These interactions have provided insights on both technical and institutional solutions for participants on both sides of the Atlantic.

OGWDW expertise in underground injection control and wastewater treatment was a further point for international collaboration outside the United States this year. An OGWDW senior staff member accepted an invitation to Spain to address the feasibility of underground injection of treated sewage and to Norway to discuss regulatory approaches for disposal of oil field wastes. A staff engineer was in Chile this year, assisting the new environmental agency on the development of controls for the pulp and paper industry.

EPA Is Helping Hungary with Its Ground Water Problems

Leaking underground storage tanks near Budapest, Hungary, have contaminated ground water. Photos by Ron Hoffer.



Sampling of ground water confirms threat to Budapest drinking water wells.

Finally, OGWDW has been playing a leading role in planning EPA's growi international agenda, which will sha the program in Fiscal Years 1993 thr 1995. Planning support to the Office Water and OIA addressed the imple tation of the Mexican Border Plan, th Asia Partnership (on water treatmen technology), and the sustainable dev ment initiatives following the United Nations Conference on Environment Development held in Brazil.

Building Partnerships with Customers

As discussed throughout this report, OGWDW and the Regional Offices have reached out to states and localities and to the associations interested in providing clean water. These groups include the Association of State Drinking Water Administrators, American Water Works Association, Ground Water Protection Council, Association of Metropolitan Water Agencies, National Rural Water Association, Rural Community Assistance Program, National Association of Water Companies, and others. In addition, OGWDW provides expert help to other federal and international agencies and programs that share OGWDW's interest in protecting ground water and providing safe drinking water supplies.

Providing Information

To support all drinking water customers, the OGWDW Safe Drinking Water Hotline (800-426-4791) responds to about 3,000 to 4,000 calls a month (see Figure 14). The majority of calls this year have been about lead in drinking water. The Hotline also responds on hundreds of policy and technical matters. The Hotline even answered calls this summer from Florida residents concerned about Hurricane Andrew's effect on their drinking water.

Through the Federal Reporting Data System (FRDS), reports have been provided about new rules and reporting requirements. More than 50 requests each quarter are received under the Freedom of Information Act for information about drinking water supplies. OGWDW also responded to about 200 written inquiries from members of Congress, concerning a variety of policy and legislative issues.

OGWDW is promoting a number of advances in data management. For example, FRDS is being upgraded as a result of a strategic planning initiative to improve information systems for the public water supply program. The future of FRDS is being assessed to determine how it can better meet the needs of states and EPA. Future new data collection initiatives under consideration in replacing FRDS are parametric data, compliance status data, and location data, as well as a stronger data management role for EPA Regional Offices and Laboratories.

User-friendly personal computer software on national drinking water regulations, distributed in 1992, enables easy access to selected information. For example, a user of this program can quickly find specific rules for a community system that relies on ground water and serves fewer than 10,000 people. This "regs-in-a-box" software was distributed to every Regional Office, state, and major association, and can be customized by states.

Reaching Out

To promote ground water protection, OGWDW created a new technical assistance document designed to help local wellhead protection managers set priorities for managing potential pollution sources. It is entitled *Managing Ground Water Contamination Sources in Wellhead Protection Areas*. The program also

The Resource Center

The OGWDW Resource Center, maintaining a database of all drinking water publications, was established in 1992 and will serve as an Office of Water model program. Over 6,000 requests have been filled this fiscal year. The center's functions include providing interlibrary loans, reference assistance, publications upon request, and access to general ground water and drinking water databases. Another function of the center is to make documents available to the National Technical Information System as soon as possible to improve their availability.

Soon the Resource Center will be able to search hundreds of commercial databases through the National Library of Medicine and DIALOG. In the near future, distribution of ground water publications will be integrated with the distribution of drinking water documents for a comprehensive document distribution system.

sponsored a networking workshop for 18 local project managers of the Ground Water Education Project in San Antonio, Texas, in January 1992. The project is one part of a cooperative agreement with the League of Women Voters to encourage communities to protect their ground water.

To help operators of shallow wells understand Agency concerns and requirements, OGWDW released a series of fact sheets that describe good housekeeping practices for an array of industrial and commercial operations.

In 1992, OGWDW produced a total of 50 informational documents, including fact sheets and technical reports, and 35 *Federal Register* documents. To reach specialized audiences, senior managers and staff presented papers and speeches at nearly 30 conferences and forums.

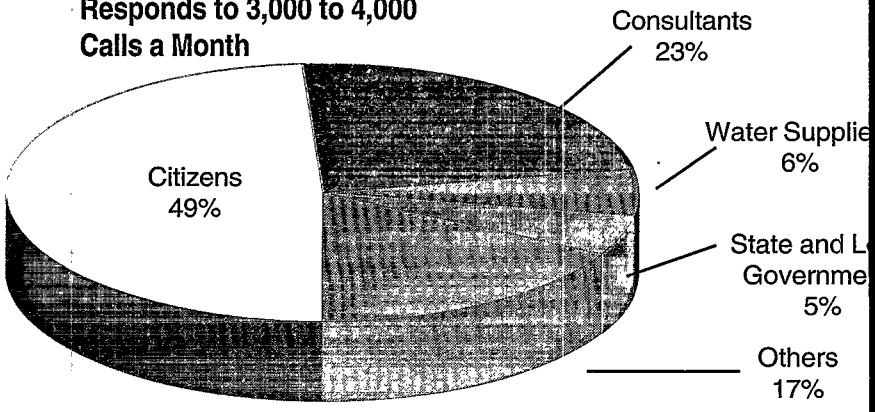
In addition, OGWDW and the Regional Offices have made a special effort to reach out to the general public to enlist their help in the preservation of drinking water sources and to help them protect themselves from possible unsafe sources (see box).

Getting Early Input

The National Drinking Water Advisory Council, a statute-mandated, independent advisory body composed of representives of OGWDW customers, meets twice a year to advise the Administrator on policy and other matters including regulations, guidelines, and strategic planning under the Safe Drinking Water Act.

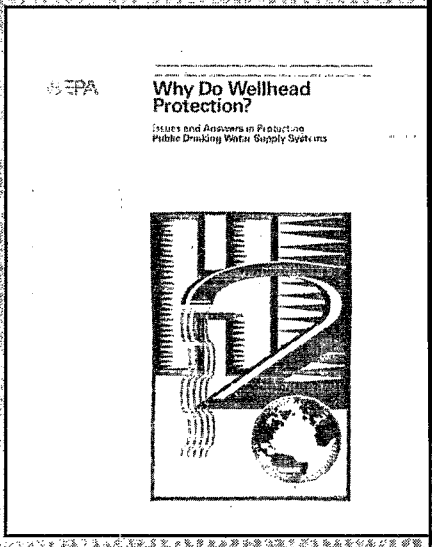
The council is charged with providing practical and independent advice; recommending special studies, policies, and actions; identifying emerging issues; and proposing activities that promote cooperation between EPA and other government agencies, interested groups, and the public on drinking water quality.

Figure 14. Safe Drinking Water Hotline Responds to 3,000 to 4,000 Calls a Month



Reaching Out to the Public: A Selected List of Outreach Projects

- *Getting the Lead Out*, an EPA pamphlet, is aimed at the public to help show people how to deal with lead problems.
- *A Compendium of Local Wellhead Protection Ordinances*, containing nearly 200 ordinances, was distributed to Regional ground water representatives and the public.
- A public outreach program was initiated for shallow injection wells and oil and gas wells through a grant to the Ground Water Protection Council.
- A chart on drinking water standards was prepared and widely distributed.
- To ensure that the media are well informed, OGWDW prepares both print and electronic information. For example, a background paper was developed for a *U.S. News and World Report* article on drinking water safety.
- A booklet, *Why Do Wellhead Protection?* was distributed.
- Teacher Activity Kits were prepared to mail with information promoting National Drinking Water Week.



- A traveling exhibit was used at 15 conferences around the country.
- Region III identified target audiences and distributed more than 9,000 copies of a pamphlet on injection well discharges.
- Region IV provided press materials and set up media interviews to publicize the April 1992 International Ground Water Ecology Conference in Tampa, Florida.

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or Success

The ground water and drinking water program *is* people. Without these dedicated individuals working as a team, EPA could never do its part to achieve safe, high-quality ground water and drinking water for all Americans.

Supporting People

The OGWDW Human Resources Council is a group of people dedicated to supporting the professional needs of staff. In its monthly "brown-bag" meetings, the council deliberates on awards and other ways to recognize staff achievements, proposes projects and ideas for improving work conditions, and plans social events. As a result of the council's work, two new awards are available: Team Awards recognize the importance of teamwork in accomplishing the OGWDW mission by giving $500 quarterly to be shared by the winning team. Peer Awards extend the existing On-the-Spot Awards by making a certificate and $25 available to any colleague who makes a special contribution that year. Based on recommendations of the council, the OGWDW Quarterly Awards process was revamped, allowing staff to nominate and select recipients.

Even though funds for salaries and expenses were limited this year, the awards program was expanded to show appreciation of staff commitment. Beside Team Awards and Peer Awards, Employees-of-the-Quarter receive a certificate plus $400 and On-the-Spot Award recipients get $100. In 1992, a Silver Award was presented to one OGWDW team and several Bronze Awards were given for other outstanding staff performances.

Personal career growth is another OGWDW emphasis. An Upward Mobility Program has elevated one secretary to an entry-level professional position. To promote personal development, supervisors have Individual Development Plans and many people took advantage of career development program "details" and "rotations" to other EPA offices to broaden their experiences.

Total Quality Management (TQM) training and Quality Action Teams (QATs) are increasingly used in OGWDW. TQM training has been provided to OGWDW and Regional staff with positive results:

- The Ground Water Protection Division formed an Office Improvement Team that is using TQM to develop and carry out improvements in everyday office functions.

Murlene Lash is congratulated by Jim Elder

Quarterly Awards Ceremony

- The Technical Support Division reports that all staff members have been formally trained in the principles and techniques of TQM and participate in a program of continuous reinforcement, practicing skills in special purpose QATs.

- Region III's Water Division is pursuing a TQM cultural change by focusing on customers, employee involvement, and commitment to continuous improvement. Numerous QATs have been formed to improve principle program processes.

- Region VI has an active Interdivisional Ground Water QAT. Through the work of this QAT, an efficient process for coordinating a comprehensive ground water program is under way.

- Region VIII and other Regions have formed QATs to improve a range of operational functions, such as grant management, enforcement, and Indian tribe assistance.

The OGWDW staff is enhanced by the valuable work performed by summer interns, "stay-in-school" students, and Senior Environmental Employees. Though not civil service employees, these people provide outstanding support.

Teamwork at the Annual Picnic

Improving Management

Since merging separate offices of drinking water and ground water, management efforts toward total consolidation are still not complete. However in some areas, such as contract management, the Office is moving toward consolidation.

Efforts to improve staff support and Office efficiency include the "PC Plan," designed to provide staff with full a to current hardware and software fo increased productivity and graphics capability while carefully determini selection of new personal computer technologies. The personal compute strategy is now being implemented. OGWDW's personal computer plan process included 45 staff members, were interviewed to determine com needs and possibilities.

In addition, OGWDW has recently launched the "supervisor evaluatio project" recommended by the Office Human Resource Council. The proje designed to help supervisors unders employee needs and sharpen manag ment skills.

Management improvements are also under way in the Regions. Region I Mississippi developed an Automate Resource Information System (MAR Region VIII completed a prototype computer-based expert system for d permits for Class II UIC wells, and R III developed a computerized grant management system in response to a survey of state needs.

OGWDW Annual Picnic

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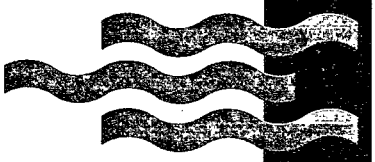

Throughout this report, the ground water and drinking water program is credited with many significant accomplishments. To maintain this success, the program must meet a number of challenges in the next few years. Perhaps the most formidable challenge is maintaining and strengthening the federal-state partnership in ground water and drinking water, in light of the escalating costs of federally-mandated programs. Continued state primacy is clearly vital to the future success of SDWA implementation. Similarly, strong state programs are at the heart of the *EPA Ground Water Strategy for the 1990s* and the related wellhead and UIC programs.

There are several challenges associated with state capacity and primacy concerns. Under the public water supply program, the number of regulations is growing fast, sometimes pushing the limits of scientific and technical knowledge and straining the federal-state relationship. Small systems are being asked to comply with regulations at a time when many are struggling just to provide basic services. Affordable technologies for water treatment and testing show promise, but they may not be in widespread use for several years. Monitoring expenses for small or disadvantaged systems are increasingly affecting low-income households. While mostly supportive of the comprehensive ground water protection approach, state governments continue to need additional funding for ground water programs.

Meeting these challenges requires the thoughtful attention and creativity of the ground water and drinking water program and the careful allocation of federal, state, and local resources. To focus on long-term solutions, the ground water and drinking water program has established two results-oriented goals:

- By the year 2000, 95 percent of the people using community water supplies will be served by a system in full compliance with SDWA regulations (both ground water and surface water systems).
- By the year 2000, 75 percent of the nation's sensitive ground water areas, identified and designated as critical for domestic water supplies or ecosystem support, will be protected by comprehensive state programs.

These ambitious goals show the program's commitment to pursue and measure environmental results. The goals will guide decisionmaking on all facets of program delivery, ranging from technical assistance and enforcement to budget and legislative proposals.

As a start, OGWDW has initiated some promising new approaches for meeting the goals:

- A geographic pollution prevention approach, which will draw on the ground water and wellhead protection programs, is likely to help solve, in part, the problems faced by small drinking water systems.
- It is hoped that innovations in regulatory development will lead to greater flexibility and future savings for both states and water systems.
- Partnerships and coalitions formed under the mobilization effort will enhance the delivery of technical assistance.
- Continued efforts to develop low-cost treatment and testing methods, if successful, hold great promise for small water suppliers.
- Widespread use of some of the new and creative enforcement tools summarized in this report will help reach the 95 percent compliance goal.
- Better integration of UIC programs and state ground water programs will help identify priority needs and save resources.

In the final analysis, it will be through the hard work and dedication of OGWDW staff, together with Regions, states, and the ground water and drinking water community, that greater strides will be made toward protecting human health and the environment.

Thanks to the Regional Offices for providing information and to the OGWDW focu group for guiding the preparation of this Annual Report: (*l. to r.*): John Reeder, St Clark, Jan Auerbach, Charlene Shaw, John Trax, George Hoessel, and Beth Hall. present are Bob Blanco, Cindy Bultman, Dennis Herrin, and Al Stevens.