

# Safe Drinking Water

How can we provide it in our community?



A series of seven horizontal bars of varying lengths, centered around the Ohio State University Extension logo.

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## **Acknowledgments**

This project is supported in part by the Ohio Small Community Environmental Infrastructure Group.

 For-sale publication

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7/00—2M—184082

# Safe Drinking Water

## How can we provide it in our community?

Many important issues emerge when considering the provision of drinking water in a small community. The following worksheets address some of the key issues. Please use these worksheets in a group discussion with a few friends and colleagues. For example:

- Discuss each worksheet over lunch.
- Meet for morning coffee and discuss each worksheet.
- Get together for a snack after a regular community meeting and go over each worksheet.
- Add a discussion of each worksheet to a regular community meeting.

Thirteen worksheets are included in this booklet. It should take a total of two hours to complete the booklet. You may wish to schedule four, 30-minute meetings to discuss these issues over the next few weeks.

Each person in your group should read through each newspaper article. The discussion questions are listed at the bottom of each article. After your group has discussed an issue, turn the page and talk about how these issues are currently being addressed.

Your group is sure to come up with some great ideas for how to provide safe drinking water in a small community. Please identify your best ideas and be prepared to report them back in the workshop.

# Assignment

As you discussed various safe drinking water issues, you probably came up with some great ideas. As a group (or on your own) write down 10 of your best ideas. Write them down here so you are ready to share them at our next meeting.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

As you talk or think about these great ideas, plan ways you can get involved in seeing that these all get implemented.

# Worksheet 1

The Ohio State Journal January 15, 1949

## 1000 Made Ill in Loudonville; Blame Water System Mishap Purifying Plant Fails—Suspect Sewer Leakage

More than 1000 residents of Loudonville were made ill last week by contaminated water—possibly sewage—and some have not yet recovered, the State Health Department disclosed last night.

A state sanitary engineer said the Ashland County village's water purifying machinery broke down early last week.

Dr. John Porterfield, state health inspector, said there is "a good possibility" a sewer line leaked into one of the wells which furnishes Loudonville's water.

The village is about 65 miles northeast of Columbus on the 3 Cs Highway. It has a population of about 2500.

Dr. Porterfield said the bacteria has not been identified. He expects a report from the state laboratories on its type and origin today or "Monday at the latest."

The victims suffered nausea, vomiting and diarrhea. Most of them have recovered but a number still require treatment by a physician, he said.

An Upper Arlington couple who drank from a Loudonville well a week ago yesterday were made ill. The husband has recovered, but his wife is still under their doctor's care, the husband told The Ohio State Journal.

Dr. C. B. Meuser, Ashland County health officer, said that as of Wednesday there were no new cases. After testing samples of the water he said there was no sign of typhoid infection.

About 200 of Loudonville's 850 school children were absent last Friday and the Flexible Co., builder of bus and ambulance bodies and the only major industry there, had many absentees because of illness.

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Associated Press, May 27, 2000, The  
Columbus Dispatch

## Outbreak of E. coli investigated by police

The deaths of five people have been traced to  
the water supply of a small Ontario town.

By Tom Cohen  
*Associated Press*

TORONTO—Police yesterday launched an investigation into one of North America's worst E. coli outbreaks as residents of a small Ontario town buried the first of five people killed by the bacteria contaminating the local water supply.

The confluence of grief and finger-pointing came a day after Ontario provincial officials took control of the water supply in Walkerton, a farm town of 5,000 people about 90 miles west of Toronto, where hundreds have been sickened since last week with the intestinal bacteria.

The investigation will focus in part on why the local Public Utility Commission did not immediately notify health authorities that water from town wells was contaminated.

Mayor David Thomson of the Brockton municipality, which includes Walkerton, said the general manager of the Public Utility Commission—which provides water and electricity to the town—has acknowledged that the commission was aware of the problem May 18.

Thomson said Thursday that the utility failed to tell his office or health authorities, even after a local health official issued a boil order for the water supply Sunday following reports from doctors of bloody diarrhea. The health officer said he had asked the utility commission three times if the water was clean and was told it was.

Jim Kieffer, chairman of the utility commission, said utility workers may have been unaware of how dangerous E. coli could be.

Superintendent Richard Kotwa of the Ontario Provincial Police said a police investigation into the E. coli contamination began yesterday with interviews of officials and gathering of documents.

"It's not a criminal investigation at this point," Kotwa said. "It could be later."

Ontario Premier Mike Harris visited Walkerton yesterday and said at an outdoor news conference that "Every aspect of this, from every level of government, will be looked at."

Harris left without answering a question yelled by Veronica Davidson, a Walkerton resident who said she wanted the premier to say exactly what would be done to fix the problem.

**Issue:** Drinking water must be free of disease-causing bacteria, parasites, and other pathogens.

Have you heard of any other communities where people have become sick from drinking the water?

How likely is the contamination of drinking water in your community with disease-causing organisms?

## Worksheet 1—page 2

The U.S. Congress responded to people getting sick from drinking water in this way:

They instructed the U.S. Environmental Protection Agency to:

- Set up a monitoring and reporting program for everyone who provides water to the public. Water providers must report the water quality data to state agencies and the public. The U.S. Environmental Protection Agency maintains records of drinking water quality provided by the state agencies.
- Adopt standards for disease-causing organisms in drinking water.
- Require the use of treatment techniques to remove disease-causing organisms. Because many disease-causing organisms are very difficult to monitor for, minimum treatment systems must be used to ensure their removal from unprotected sources of water. Lakes, streams, springs, and some wells are considered unprotected water sources. By always being on-guard with these treatment techniques, people can be assured that their water is free of parasites, bacteria, and other pathogens that cause disease.

The Ohio Legislature has accepted primary enforcement responsibility for federal safe drinking water laws. To maintain “primacy,” Ohio must adopt and enforce drinking water regulations at least as stringent as the U.S. Environmental Protection Agency regulations. The Ohio Environmental Protection Agency has been given the authority for carrying out these responsibilities by the Ohio Legislature (ORC 6109.03).

Ohio has adopted rules for special treatment techniques, filtration, and disinfection of all streams, lakes, and microbiologically contaminated groundwater. Ohio’s vigilance has prevented any water borne disease outbreak with a public water system since the 1940s.

## Worksheet 2

Copyright 1986, reprinted with permission by The Des Moines Register, July 29, 1986

### Nitrates blamed for baby death in South Dakota

By Larry Fruhling  
*Register Staff Writer*

South Dakota officials said Monday they are trying to find the source of nitrates in a farm well that caused the death of a two-month-old girl — the first known infant death from nitrate poisoning in the United States in some three decades.

Darron Bush, an official of the South Dakota Department of Water and Natural Resources, said the child, Lacy Jo Geyer, died a month ago of “blue baby syndrome,” a nitrate-induced illness that deprives an infant’s brain of oxygen. The cause of death was established last week.

Bush said water from the Geyer family’s well near De Smet in eastern South Dakota contained 152 parts per million of nitrates. Levels exceeding 45 parts per million are considered dangerous for infants.

Rising nitrate levels in groundwater are causing increasing concern in the Upper Midwest. Many authorities blame the heavy nitrogen fertilization of corn.

#### Common Problem

Bush said nitrate contamination of groundwater is a problem in

much of eastern South Dakota, sometimes exceeding 1,000 parts per million. But, Bush said, the exact source of the nitrates in the Geyers’ well was not known.

One possibility is that the nitrates came from the family’s septic tank, which is within 40 feet of the water well, Bush said, adding, “That’s too close but we are not absolutely certain if that was the source.”

Bush said that the well water also was contaminated by bacteria, but that if the septic tank were the primary source of the nitrates he would have expected the bacterial count to have been higher than it was.

Other possible causes of the well contamination are that nitrogen fertilizers in the intensively farmed area seeped through the soil and boosted the nitrate level beyond the danger point for infants, or that spring flooding washed excessive fertilizers into the Geyers’ shallow, 30-foot-deep well, Bush said.

“We’re just getting into motion to determine the source,” he said. “At this stage of the game anything is possible.”

Bush said he was aware of just one other case of blue baby syndrome in South Dakota in recent years. That case, which was not fatal, occurred in 1981, he said. It is possible, however, that there were other cases, since there are no re-

quirements that the illness be reported to state health authorities.

Linda Geyer, 24, the little girl’s mother, said she nursed Lacy Jo for the first 1½ months, supplementing the breast-feeding with infant formula and fruit juices mixed with water from the family’s well.

#### Symptoms

Geyer said that the child suffered some vomiting, diarrhea and blue discoloration of the fingers, toes and around her mouth, but that the problems became much more pronounced when she stopped breast-feeding the child and switched her to formula altogether.

Geyer said blue baby syndrome was not diagnosed by her doctor. “It’s such a rare sickness, that’s the last thing they think of,” she said.

Geyer said she and her husband, David, had taken Lacy Jo to a hospital at De Smet on June 28, and that local doctors sent them to a larger hospital at Huron. Lacy Jo stopped breathing on the way, was revived briefly at the Huron hospital, and died later that night.

The medical name for blue baby syndrome is infant methemoglobinemia. The illness usually strikes infants younger than six months whose immature digestive tracts make them particularly susceptible.

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**Issue:** Drinking water must be free of poisonous levels of chemicals.

Have you heard of any other communities where people have become sick from drinking the water?

How likely is the contamination of drinking water in your community with poisonous chemicals?

How would you make sure that the people drinking water in your community do not get sick?

## Worksheet 2—page 2

The U.S. Congress responded to the discovery of poisonous levels of chemicals in drinking water by instructing the U.S. Environmental Protection Agency to:

- Set up a monitoring and reporting program for everyone who provides drinking water to the public. Water providers must report the water quality data to state agencies and the public. The U.S. Environmental Protection Agency maintains records of drinking water quality provided by the state agencies.
- Adopt standards for toxic substances in drinking water.
- Require anyone who provides water to the public to guard against corrosion of lead from household plumbing. Lead is poisonous, especially to growing children.

Ohio has adopted standards essentially identical to federal rules. Because much of Ohio's land is in agriculture, the Ohio Environmental Protection Agency does require more frequent monitoring for nitrate than federal rules require.



# Worksheet 3

Independent Record, Helena, Montana, Mar. 19, 1988

## Drinking water standards unnecessarily high?

By Tom Cook  
*IR State Bureau*

New proposed federal drinking water standards would eventually cost Montana ratepayers hundreds of thousands of dollars and probably not result in any safer tap water than they receive now, Lyle Meeks, chairman of the Montana Water Works Association, said Friday.

"We need to take a little stronger look at the true risks of what they want us to test for before we spend millions and millions of dollars on things that might turn out not to have been needed in the first place," Meeks said.

Speaking at the end of his association's two-day convention in Helena, Meeks said there was unanimous support from officials of the 2,300 public water systems in the state to urge the Environmental Protection Agency to reconsider proposed rule changes

to increase the frequency and types of testing.

The new rules, which are intended to implement the 1986 Safe Drinking Water Act, would require testing of 59 new coliform bacteria this year, 40 more the following year and 34 the year after that, Meeks said.

It would cost about \$120,000 this year just to perform increased testing required in the act for the state's 10 largest cities, he said.

It would be somewhat cheaper to sample smaller systems, but they might have more difficulty absorbing the increased cost, he said.

Ken Johnston, a past president of the organization and retired state Water Quality Bureau worker, said states should be given more authority to sample for things of concern in their area rather than allowing the federal government "to blanket us all."

"We don't feel we should be tagged with the same regulations that those who live by the Love Canal are given," he said. "All of us are for clean water, but this

is unrealistic."

Meeks said the new requirements are based on tests of small animals "given very, very, very large doses," that have questionable application to humans.

"We're just saying they should take a little stronger look at the true risks before we spend a lot of money," he said.

Based on what they know now, Meeks also said about 10 new water treatment plants probably would have to be built in the state soon to meet the new standards at a cost of about \$1 million a piece.

Rep. Ron Marlenee, R-Mont., has called on EPA to hold hearings in Montana and other more rural states before implementing the new rules.

"I have been deluged with letters and phone calls from schools and small communities who simply do not have the technical and professional resources to operate and maintain the more complicated water treatment techniques that will likely result," Marlenee said in a prepared statement.

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**Issue:** How safe does drinking water have to be?

How would you make sure that the people drinking water in your community receive safe water at a reasonable cost?

## Worksheet 3—page 2

The U.S. Congress became concerned about the cost of implementing the Safe Drinking Water Act and made some important changes to the law in 1996. They moved from a one-size-fits-all approach that had been used in the past. Congress instructed the U.S. Environmental Protection Agency to use science-based flexibility and prioritize their efforts to protect the public health. The resulting new risk-based approach includes regulating contaminants that:

- Adversely affect human health.
- Are known to or are likely to occur in public water supplies.
- If regulated, present a meaningful reduction in health risk.

For all future drinking water standards:

- A thorough cost-benefit analysis must be conducted.
- Best available, peer-reviewed science and supporting studies must be used.
- Information on new standards must be presented by the U.S. Environmental Protection Agency in an informative and understandable way.

Because of the expense and the highly technical nature of the drinking water standards adoption process, Ohio relies on the U.S. Environmental Protection Agency for the development of standards. The Ohio Environmental Protection Agency does provide input and comments on proposed federal standards and encourages others to do so.

The Ohio Environmental Protection Agency has adopted a waiver program for monitoring of chemicals that are not used, stored, or transported in the vicinity of a community water source.

# Worksheet 4

Courier-Journal, Louisville, Kentucky, Oct. 9, 1987

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## State beefs up efforts to try to ensure safe drinking water

By Scott Thurm  
Staff Writer

TAYLOR MILL, Ky. — The water in the glass vial looks clear. Quick tests show that it meets state standards for small particles, acidity and chlorine.

But that doesn't make it safe to drink. For the clear water could hide any number of toxic chemicals.

Until now, many may have escaped detection. But this week, the clear vial — obtained from a tap at the Kenton County Water District No. 1 plant here — became part of the most intensive effort ever in Kentucky to identify invisible poisons.

During the next month, the water will be tested for 83 chemicals, from arsenic to zinc. That's almost four times as many contaminants as have been sought in water in the past.

And if any of those contaminants turn up repeatedly in Kenton County's water at what are considered unsafe levels, the utility will be forced to add sophisticated new treatment equipment.

This testing process will be repeated in about 200 water districts across the state in the next few weeks.

The expanded tests were required by Congress last year as part of changes in the 13-year-old Safe Drinking Water Act. They are intended to offer Americans the strongest protection yet against waterborne illness and disease.

But that protection will not be cheap. The tests and repairs will cost the nation's water suppliers more than \$40 million a year, according to estimates by the U.S. Environmental Protection Agency.

The strain will be greatest for smaller water systems, which have fewer customers to share the costs of testing and new equipment. Rate increases are likely, water company

officials say: the EPA estimates that removing just eight chemicals from public-water supplies will add \$41 a year to the water bills of small-system users.

Kentuckians may get a break on those increases because state government has agreed to conduct — and pay for — the first round of tests. But Indiana water suppliers will not be so lucky.

And eventually, government officials and outside experts say the testing and treatment costs will force many small water suppliers out of the water-treatment business, pushing them to merge with other systems or buy treated water from larger suppliers.

"As more contaminants have to be tested for, the price of water is going to go up," said Gary Larimore, executive director of the Kentucky Rural Water Association, which represents 213 of the state's smaller water suppliers.

Larimore asks two questions for which he says he does not know the answers: "Is it necessary? Are we overreacting?"

Supporters of the drinking-water amendments would say yes and no.

More than 85,000 people have become sick in the past decade after drinking bacteria-contaminated water, and more than 700 chemicals have been found in the nation's groundwater. But as of last year, the EPA had set standards and required testing for only 22 contaminants: some requirements applied only to larger systems.

"For years and years, we acted as (though) if we added enough chlorine to water, everything is going to be fine," said Jay McCoy, whose Madisonville-based engineering and consulting firm conducts tests for many of the state's water companies. "Now we know that's not so."

The response was a law laden with requirements and deadlines. By 1991, the EPA must limit allowable concentrations of 108 chemicals in drinking water. Next January, water systems will begin quarterly testing for 83 contaminants, only some of which appear on the EPA list as well. And filtration and disinfection requirements have been extended to even the smallest systems.

In many cases, the result has been confusion. Garry Rowe, superintendent of the Salyersville water plant in Eastern Kentucky, acknowledged that he had heard little about the testing requirements before receiving a package from state officials last week.

"It's kind of new to me," Rowe said. "There are a bunch of them (chemicals) on there."

Larimore, of the rural-water association, said the group has sponsored several meetings to spread the word about the new law. But, he said of the association's members, "They just really don't know what's coming down."

Most will have time to learn because the testing requirements will be phased in. Only the largest suppliers must begin the massive sampling program in January.

Because the state is paying for the first round of tests, Kentucky is moving ahead of the federal schedule. State officials began gathering samples from 200 water suppliers this week, shipping the glass vials to Frankfort in refrigerated packages for sophisticated analysis at the state lab.

These suppliers — all of those in the state with 3,300 or more customers — will be tested three more times in the next year. Based on the results, they will have to repeat the tests as often as once every three months or as rarely as once every five years.

They could also be required to add costly treatment systems. But representatives of the state's largest water companies said in recent interviews that they expect to meet all of the new standards.

Some, like the Louisville Water Co. and the Kentucky American Water Co., which serves most of Fayette County and parts of five others, have their own laboratories and have been spot-testing for some of the newly covered chemicals.

"We don't see that it (the law) is going to pose us any problem," said Jerry Ford, manager of administrative services for the Louisville Water Co.

The tests will cost the state about \$170,000, said John Smither, who runs the state's drinking-water program. Officials plan to repeat the process with groups of smaller water companies in each of the next two years, eventually reaching all 650 suppliers covered by the regulations.

In general, officials and industry observers expect more problems with the smaller systems, which tend to have less reliable water sources, less sophisticated treatment plants and less experienced operators.

"It's going to hurt a lot of these small towns," said Arnold Helton, superintendent of the water works in West Liberty.

Nationally, the EPA estimates that only about 2 percent of small water suppliers will be forced to add expensive treatment systems. But McCoy, whose firm tests water systems in six states, expects that figure to be higher in Eastern Kentucky, where there are numerous small water systems.

And he expects the costs to force some systems out of the water-treatment business. "There will be an exponential decrease in the number of water systems over the next 10 years," McCoy said. "You'll see a lot more of the Kentucky American (regional) concepts."

Richard Shogren, of the consulting firm Camp Dresser & McKee and a former director of the state Division of Water, said the trend will improve water quality. "The long-term effect of having a lot of these smaller systems merge or buy water from larger water systems will be good for health in rural areas."

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**Issue:** Providing safe drinking water must not pose an economic hardship on a small community.

How would you make sure that the people drinking water in a small community receive safe water without severe economic hardship?

## Worksheet 4—page 2

The U.S. Congress has included provisions in the federal Safe Drinking Water Act to give small communities more time to come into compliance with the law. It is now possible to obtain waivers, variances, or exemptions from the state agency administering the federal safe drinking water program.

But, as you can well imagine, because of the threat to public health when systems are out of compliance, these waivers, variances, and exemptions include special restrictions and conditions. These may include:

- No unreasonable health risk.
- Prior installation of the best technology available with some consideration of affordability.
- Time schedules for coming into full compliance.

Some small system provisions have been established to provide relief from requirements that are placed on large systems. Appropriate technologies for small systems are being studied by the U.S. Environmental Protection Agency and by other research institutions through federal grants. In some cases, small systems may be granted indefinite renewals.

The Ohio Environmental Protection Agency has developed protocols for acceptance of cost-saving innovative drinking water treatment technologies and participates in federally sponsored research programs.

# Worksheet 5

Reprinted, with permission, from the Columbus Dispatch, July 11, 1998

## 2 schools' well water is unsafe

### Too much arsenic found in wells

By Ann Fisher  
and Jill Riepenhoff  
*Dispatch Staff Reporters*

Arsenic levels twice the federal limit have been detected in well fields serving two Perry County schools, prompting the Ohio Environmental Protection Agency to order the schools to stop using the water for drinking and cooking.

As a result, local officials are seeking construction of a 6.5-mile waterline from Thornville to provide safe water to the schools.

Perry County commissioners have asked the General Assembly for emergency financial aid to begin construction of the waterline from the Northern Perry County Water Supply System in time to serve Sheridan High School and Sheridan Middle School this fall.

The Ohio EPA, in a letter dated July 2, notified commissioners that routine testing this summer had detected the elevated arsenic levels in the water. A second set of testing confirmed arsenic levels averaging 98 parts per billion, said Richard Ansel, of the EPA office in Logan.

Federal law mandates that arsenic in drinking water should not exceed 50 parts per billion.

Arsenic is a carcinogen, although there is debate over its possible links to cancers such as skin and liver, according to the U.S. EPA.

Oral exposure to arsenic can result in thickening of the skin; problems in the nervous, gastrointestinal and circulatory systems; hearing impairment; and diabetes.

Extreme doses of inorganic arsenic over a considerable period of time can result in death.

Ansel said the EPA is unsure how long the groundwater has had the elevated level of arsenic. The arsenic found in the wells is the inorganic form of the mineral and thus is naturally occurring in the environment, Ansel said.

"Arsenic in groundwater in Ohio is the exception rather than the rule. It's pretty rare to find it above 50 parts per billion," he said.

Arsenic levels in the school wells have increased rapidly, Northern Local board member Michael Pettit said, noting a 1995 reading detected 8.5 parts per billion.

"We urge the House of Representatives to help us out by making this an emergency situation," Pettit said yesterday. "We have enough financial problems in this district without another one."

The financially challenged Northern Local district is home to the school-funding lawsuit filed in 1991 by a coalition of districts that claimed Ohio's public-school funding system was inadequate and in-

equitable. In March 1997, the Ohio Supreme Court agreed, ordering the General Assembly to revamp the system.

A review by Perry County Common Pleas Judge Linton Lewis of the legislature's solutions will begin late next month.

Pettit said the estimated cost to install the new waterline is \$600,000, and that plans call for the line to be "in the ground and ready to use by the end of August."

The waterline extension already was part of a five-year plan to expand the waterlines throughout northern Perry County. The discovery of elevated levels of arsenic put it on the fast track, said Michael Heavener, president of the board of commissioners.

The waterline would extend from the intersection of Rts. 13 and 204 and follow Rt. 13 to the Sheridan schools, Pettit said.

EPA officials this week advised Perry County and school officials that construction of new wells is unlikely to solve the problem and that treating the present well water could be too expensive.

The Ohio EPA has recommended that residents who live near the schools have their private wells tested.

Heavener said the Perry County Health Department has been instructed to petition state health officials to test, at state expense, private wells in the vicinity of the schools' wells.

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**Issue:** Some small communities may need help in paying for safe drinking water.

How would you pay to upgrade a small community water system?

## Worksheet 5—page 2

In 1996, the U.S. Congress established a new drinking water state revolving loan fund. Each state develops its own program to dispense these funds. States receive annual capitalization grants once they meet program requirements.

This new program is similar to the state revolving loan funds that have been available for wastewater systems. However, this program has some significant differences. Much was learned from the wastewater systems program, and drinking water and wastewater systems each have special needs.

Ohio's program for the water supply revolving loan account is jointly administered by the Ohio Environmental Protection Agency's division of drinking and groundwater (DDGW), the division of environmental and financial assistance (DEFA), and the Ohio Water Development Authority (OWDA). An intended use plan is adopted by the Ohio Environmental Protection Agency director for distributing these funds each year after public review and comment.

# Worksheet 6

Coshocton Tribune, Nov. 15, 1994

## Unsafe water ahead

Contamination is headed toward village wells; options sought

By Patricia Viancourt  
*Tribune Staff Writer*

WEST LAFAYETTE — A preliminary report from the Ohio Environmental Protection Agency on the contamination of several area wells is leaving Village Council members with more questions.

Over the last several weeks, the EPA tested 26 sites for the presence of trichloroethylene (TCE) and a TCE byproduct, vinyl chloride. Trichloroethylene is a man-made compound used as a general solvent and degreaser, according to the EPA.

The maximum contaminant level acceptable by the EPA is five parts per billion.

EPA Tests confirmed levels as high as 365 parts per billion have been detected in the ground water within 1,000 feet of the village's water wells, and traces of vinyl chloride have been detected about 150 feet from the wells.

Utility Committee Chairman Steve Bordenkircher said it is important for residents to realize that while the contaminants have reached the well field, they are

There is no immediate danger to life or health.

—  
councilman

not present in the drinking water at any dangerous level.

"There is no immediate danger to life or health," he said in a written statement Monday night. "The village water is within the permissible limits established by the EPA."

But there will come a time in the future, within the next few months to two years, according to the EPA, when the wells will become contaminated and the drinking water unsafe.

"The Ohio EPA has determined that the contamination is heading in the direction of the well field," said a letter to Village Council from EPA Environmental Engineer Scot W. Foltz. "The well field should be considered to be in imminent danger of contamination."

Bordenkircher said the EPA has completed its field work and is currently in the process of interpreting the data. He said a final recommendation to the village on how it should proceed in dealing with the problem, and the source of the contamination, is expected within two months.

While not ready to point fingers, Bordenkircher said the location of the highest concentra-

tion of contamination leads him to believe it was caused by "industrial waste."

The highest concentrations were found in soil located at the Penn-Michigan site north of the railroad and west of Jones Metal. While most residents have come to the same conclusion, Bordenkircher said the EPA has not made a formal statement laying the blame.

Over exposure to the colorless, sweet-smelling liquid can cause skin irritation, headaches, nausea and vertigo, the EPA said.

Two possibilities on dealing with the contamination are construction of a water treatment plant or relocation of the village wells.

At Monday night's meeting, council members voted unanimously to retain Poggemeyer Design Group of Dublin for one year at a cost of \$6,000. The firm will work with the village and the EPA in finding the most cost effective solution to the village's water problems.

How the village proceeds will depend on the information it receives from the EPA concerning the source and extent of contamination and its movement pattern.

"This has the potential to be a very expensive project," Bordenkircher said.

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**Issue:** Drinking water must be protected from sources of contamination.

How would you make sure that the drinking water system in your community will be safe for years to come?

## Worksheet 6—page 2

Protecting surface and ground water sources from contamination is one strategy to both protect public health and keep treatment costs low. Therefore, the U.S. Congress directed the U.S. Environmental Protection Agency to guide states through a process to:

- Determine the boundaries of the land area that can impact a drinking water source.
- Inventory potential sources of contamination within those boundaries.
- Work with water systems to develop a plan of action to manage the risk of contamination.

Water systems using groundwater were required to develop their own wellhead protection programs in 1986. In 1996, two important changes were passed by the U.S. Congress. *All* water systems were required to have and implement source water protection plans. Congress directed states to delineate source water protection areas and assess potential pollution sources.

The Ohio Environmental Protection Agency adopted a voluntary 10- step wellhead protection program (WHP) in May 1992. This program was expanded to a source water assessment and protection (SWAP) program in June 1999. The SWAP program is to be supported through federal funds provided to the Ohio drinking water assistance fund.



# Worksheet 7

Reprinted with permission of the Dallas Morning News, Aug. 11, 1988

## Warnings sent to Tawakoni area customers

By Julie Mason  
Staff Writer of The Dallas Morning News

State inspectors have found widespread violations in the Tawakoni Water Utility Corp.'s water treatment process and have recommended the utility notify its customers that a health threat exists and that they should take precautions before drinking the water.

The warning letters went out this week, but many of the utility customers in the unincorporated areas around Lake Tawakoni say both the state Department of Health and the attorney general's office have known about the hazard for at least two years and did not alert residents to the danger.

"We've been drinking the water all this time, and the state knew it wasn't up to quality," said Bob Knight, a resident of the affected area in northeast Texas. "I'm just wondering why no one told us."

Harry K. Myers, owner of the utility, has consistently responded to criticism by saying that he is in the process of making improvements to bring his facilities into state compliance.

Spokesmen for both agencies said that although the utility's lack of compliance with state standards is well documented, it is the responsibility of the utility to inform customers of possible health threats. And once the state recommends that the utility notify customers, there is no deadline by which it must comply.

The state recommended notification of the utility's approximately 3,000 customers on the southwestern edge of Lake Tawakoni on Aug. 4.

"We issued a boil-the-water recommendation and it was up to him (utility owner Myers) to do something about it," said Mike Smith, an assistant attorney general who is

representing the Health Department in litigation with the utility.

"His facilities are out of compliance, have been out of compliance for some time," he said. "The results are nothing new, but his taking action is."

Myers was sued by the state attorney general's office in 1986 and faced nearly \$35,000 in fines if he failed to upgrade his facilities extensively. So far, state investigators say, he has failed to do so and has paid part of the fine.

Irvin Turner, regional engineer for the Health Department in Arlington, said his office conducted inspections of Myers' operation last week and found the utility's treatment of Lake Tawakoni surface water poses an immediate danger to consumers.

"He's out there pulling water out of an old rock quarry, and I'll tell you that doesn't begin to meet our requirements," Turner said.

The state has previously cited the utility for using rusty holding tanks and exposed pipes — some reaching into swampy areas and gravel pits.

Myers said that his facility has been unable to keep up with changing state regulations, and that before now he did not anticipate having to notify customers of a health threat.

"We're trying to straighten out a lot of problems," he said Wednesday. "But our own chemical analysis so far has shown there's nothing wrong with the water."

The Tawakoni Water Consumers Association, composed of residents served by the utility, says Myers finally admitted his water was unsafe to drink after an Aug. 7 story in *The Dallas Morning News* regarding the utility's lack of compliance with state regulations.

"We've been after him for 13 years to do something," said association president Jim Campbell, referring to his group's dealings with Campbell since he bought the utility in 1975.

Officials familiar with the state investigation in the case speculate Myers hoped to

delay notifying customers of a health risk until after the state Water Commission approved a pending rate hike for the utility.

Myers and his attorney acknowledged the utility's facilities do not meet current state standards. But Gary Lott, Myers' attorney, denied the rate hearings were related to a delay in notifying customers of the health hazard.

"We were notified last week that inspectors found an environment existed at our treatment plant that could pose a threat to human health," Lott said. "We had the letter to customers drafted and sent out right away."

Myers also recently instituted a rationing program strictly curtailing the hours customers could water their lawns and gardens. His plan received a terse reprimand from state officials who said the program violated several provisions of state rationing regulations.

"My rose bushes are dead, and this has hurt a lot of elderly people who subsist on their vegetable gardens," said Charlie Sittig, a retiree who has fought the utility in court and before the Water Commission.

Many of Myers' customers in the Tawakoni area have installed filters on their taps to improve the quality of the water. But Lott and Health Department officials said such measures may not make Myers' water safe for consumption.

"I would not trust water put through a filter at this point," Lott said. "I would hope that all customers in the affected areas boil their water as per the instructions in the letter."

The Health Department recommended Myers instruct his customers to bring water to a brisk boil for three minutes, add five drops of bleach for each gallon and let it stand an hour before drinking.

"This just opens up a can of worms as far as I can see," Campbell said. "If you can't drink it, how can you bathe in it? What are we supposed to do now? That's what I want to know."

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**Issue:** Drinking water providers must keep customers informed of the source, quality, and any contamination of their drinking water.

How would you make sure that the people drinking water in your community are kept informed?

## Worksheet 7—page 2

Consumers of drinking water from public water supplies have a right to know about the quality of that water. Therefore, the U.S. Congress has instructed the U.S. Environmental Protection Agency to require public water systems to:

- Notify the customers when contaminants in their water exceed standards. The notification method and urgency depends on the severity of the public health threat.
- Educate the customer about steps they can take to protect their family when lead exceeds statistically determined threshold levels called action levels.
- Distribute an annual customer confidence report. This report must include:
  - Sources of their drinking water.
  - The average and range of contaminants found in their water.

The Ohio Environmental Protection Agency currently enforces federal notification requirements.

## Wintersville set to address water and sewer rate increase

By Bob Thomas  
Staff Writer

WINTERSVILLE — Village council will hold a special meeting at 7 p.m. Wednesday at the Village Building, 221 Leonard Ave., to hear the first reading of ordinances to raise water and sewerage rates.

"I think we need to make a move on this," said Council President Joe DeArdo Jr. "We need to look at raising our water and sewer rates immediately."

While DeArdo wants to see the new rate proposal adopted as soon as possible, he said the issue will be given three public readings before a final vote is taken to give residents ample opportunity to address council with any concerns they might have.

Currently, the village is losing more than \$13,000 each month on water and sewer services, according to a financial report presented to council by Village Administrator Reagan Parsons on Jan. 20.

"The cost of doing business increases every year," Parsons said, noting the rising costs associated with maintaining old lines and the increase in bulk water charges that went into effect last month as part of the new water contract with the city of Steubenville.

Wintersville's water and sewer departments were well into the red at the end of 1997, with the water department posting a \$94,878.74 deficit, and the sewer department a \$68,851.60 deficit, according to Parsons' report. Combined losses for both departments were \$163,730.34 for the year.

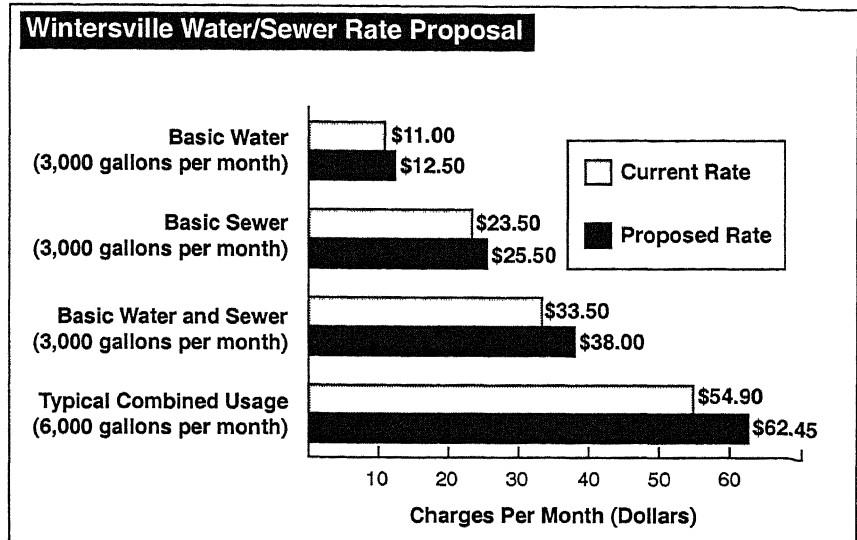
The numbers weren't a surprise.

Both departments have been operating at a loss for several years, with deficits being covered by previously accumulated surpluses, Parsons said.

Parsons added the surpluses accumulated in water and sewer accounts because several maintenance projects haven't been completed, resulting in sharply increasing maintenance costs.

"Basically, we've been putting out fires," Parsons said, referring to the village's approach to water and sewer maintenance. "Now we're getting hit with large breaks."

He said the surpluses in water and sewer accounts are nearly depleted, creating a concern over



Source: Village of Wintersville

Bob Thomas

the rising maintenance costs.

"It's only going to get worse because of the new contract," Parsons added.

While the issue has been discussed in the past, action hasn't been taken because officials are reluctant to raise rates unless it is unavoidable.

The last increase in sewer rates was approved in 1992 to cover a loan for capital improvements, Parsons said, adding that the last water rate increase occurred prior to that.

"When I came on council three years ago, there was a deficit, and I wanted to address the issue then," said Councilwoman Beth Rupert.

Along with his financial report, Parsons presented a rate increase proposal that was developed with the help of Councilman Joe DeArdo Sr.

The proposal calls for a 14 percent increase in the basic water rate (up to 3,000 gallons per month), a 38.5 percent increase for water overage (more than 3,000 gallons per month), and an 8.5 percent across the board increase in sewer rates.

Parsons said the proposed increases were based on the revenues needed to make both departments pay for themselves at current usage levels.

DeArdo Jr., who has succeeded Rupert as council president this year, has made the growing deficits his top priority.

At the last regular council meeting on Jan. 20, DeArdo Jr. entered a motion to bring in an ordinance to adopt the proposed rate increases.

But before his motion received a second, Councilman John Synodinos interjected, saying the proposal should be reviewed by the water and sewer committee before legislation was brought before council.

DeArdo Jr. responded by withdrawing his motion and tabling the issue pending a committee review.

Synodinos has said on numerous occasions that he opposes any increase in water and sewer rates.

"There was a surplus on income tax," Synodinos said. "I feel we can run in the red where water and sewer rates are concerned."

He said raising water and sewer rates would create financial hardship for many residents and doesn't feel council should do that when there are revenues in other areas of the budget that can cover the deficits.

Parsons disagrees.

"My interest is in providing high-quality police and street services," he said, noting that subsidizing the water and sewer departments with general fund moneys, while allowable, isn't prudent because the community would be better served by using those funds to buy badly needed equipment like a new police cruiser.

Other council members also see the rate increases as necessary.

"These are enterprise funds and should be holding their own," said Councilman John Polsinelli.

**Issue:** Providing drinking water is a business, which, like all businesses, requires responsible management to reliably deliver safe drinking water to its customers.

How would you make sure the drinking water system serving your community is managed responsibly?

## Worksheet 8—page 2

The U.S. Congress developed a new focus in 1996 making sure water systems have what it takes to provide safe water for the long term. Congress instructed the U.S. Environmental Protection Agency to review existing practices and guide the states through development of a program to:

- Require that any *new* drinking water systems have the technical, managerial, and financial capacity to provide safe drinking water to customers.
- Require drinking water loan recipients to demonstrate technical, managerial, and financial capacity to properly operate their systems.
- Identify drinking water systems having significant *problems* in reliably providing safe drinking water to customers.
- Help *existing* drinking water systems make needed improvements in their managerial, technical, and financial capacity. In this way, they can ensure the continued delivery of safe drinking water to customers.
- Report on success in helping communities.

The Ohio legislature in 1997 has authorized the director of the Ohio Environmental Protection Agency to deny the approval of plans for new public water systems, if they cannot demonstrate technical, financial, and managerial capacity. The Ohio Environmental Protection Agency adopted rules and guidelines for assessing the capacity of new systems, loan applicants, and existing systems to maintain compliance with drinking water regulations on a long-term basis. The rules require new systems and loan applicants to submit a capacity assurance plan consisting of a general plan, a management plan, and a financial plan. The plans for new systems and evaluation of existing systems are to be based on readily available information.

# Worksheet 9

Reprinted with permission from the Philadelphia Inquirer, May 10, 1988

## Audubon firm faulted by N.J. on water tests

By Laurie Hollman  
*Inquirer Trenton Bureau*

TRENTON—A laboratory that tested drinking or waste water for about 100 public water suppliers, most of them in Burlington, Gloucester, Camden and Atlantic Counties, kept faulty records, falsified analyses, altered data and used inadequately trained personnel, the New Jersey Department of Environmental Protection (DEP) alleged yesterday.

DEP says that Quality Control Laboratory Inc., 243 White Horse Pike, Audubon, is responsible for 85 violations of state environmental law. DEP officials announced yesterday that they have temporarily barred the company from submitting tests of public water systems to the state and have moved to impose a civil administrative penalty of \$248,500.

Lee Greenwald, owner of the laboratory, denied the state's allegations.

"All of the allegations, step by step, are denied and because of litigation pending against the sources I'd rather not get into the details," he said.

Even as DEP Commissioner Richard T. Dewling was saying his agency's allegations "cast doubt" on numerous lab tests the company has done to check for the presence of hazardous chemicals in the water, he and other DEP officials took pains yesterday to assure people that the water they drink from public utilities in 10 South and Central New Jersey counties is safe.

"There is no imminent health threat," Dewling said. "However, DEP and citizens have made health and economic decisions based on questionable data provided by Quality Control Laboratory."

DEP was tipped off to problems at the laboratory by two former employees, according to Anthony J. McMahon, assistant director in charge of enforcement for DEP's division of environmental quality. DEP agents obtained a warrant, and, on July 10, 1987, confiscated business records at the laboratory.

Based on a review of the records from 1986 and 1987, DEP officials said they found "particular problems" with the laboratory's analyses of drinking water and waste water for nitrate, trace metals, pesticides and volatile organics.

These are substances believed to be harmful over a long period, McMahon said. But since water suppliers have to conduct analyses at least twice a year, and since all positive results and some negative results are rechecked for verification, it is highly improbable that anyone's health suffered because of allegedly faulty testing, he said.

DEP spokesman Jim Staples said the levels of hazardous chemicals were so low that DEP officials felt they could afford to wait nearly 10 months while "our people retraced their footsteps, labwise" and built a case against Quality Control.

In reviewing Quality Control Laboratory's records, DEP officials said they found instances in which the laboratory allegedly:

- Failed to report the presence of a chemical that the data indicated was there, and used methods of analysis the state had not approved.
- Reported analyzing samples for particular chemicals that other laboratories had actually analyzed instead or that had not been analyzed for those chemicals.
- Accepted samples without assurance they had been collected, preserved, processed, stored or transported properly.
- Failed to provide adequate training of laboratory personnel.

Quality Control Laboratory owner Greenwald said all of these allegations

were unfounded.

He suggested that DEP was trying to put him out of business "with the stroke of a pen" and that the state had taken the side of an ex-employee whom Greenwald said he was suing. He declined to elaborate.

The company, which is managed by Greenwald's son, Bruce, has been in the water-testing business for 15 years and employs about a dozen people, Greenwald said.

The laboratory has performed some or all of the lab testing for about 100 public water suppliers during the last two years. These suppliers, located primarily in Burlington, Gloucester, Camden and Atlantic Counties, include township water departments and municipal utilities authorities. In addition, the lab has conducted water tests for mobile home parks, a country club, the state prison at Leesburg, the state psychiatric hospital at Ancora and McGuire Air Force Base.

Some of the suppliers contacted yesterday said they had discontinued use of Quality Control Laboratory when problems with test results arose.

Others said they were unaware of the DEP action, although the agency said it was in the process of notifying local health agencies and public community water systems known to have used the laboratory.

Quality Control Laboratory had been certified, but in the wake of DEP's allegations, officials said yesterday that they had suspended certification. That makes it illegal for the laboratory to submit test results to DEP.

The laboratory has until May 24 to request a hearing on the certification suspension and the civil administrative penalty. If there is no request, suspension of the lab's DEP certification is final and the fine would be due. Otherwise, the temporary suspension will remain in effect until an administrative hearing is held.

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**Issue:** People who operate public drinking water systems need to be qualified and have the necessary training.

How would you make sure that the drinking water system in your community is operated by a qualified person?

## Worksheet 9—page 2

The system operator is the person on the front lines who oversees drinking water safety in a community. The U.S. Congress directed all states in 1996 to have a program for operator certification that meets certain baseline standards. The objective is to ensure that every drinking water system has a trained operator to perform all of the key functions necessary to protect the public health.

Many small systems may not be able to afford operator training. Therefore, Congress set aside funds to reimburse small communities (with fewer than 3,300 people) for the cost of operator training and certification.

The Ohio legislature in 1978 authorized the director of the Ohio Environmental Protection Agency to implement a program for the certification of water treatment plant operators and laboratories. The Ohio Environmental Protection Agency cooperates with the Operator Training Committee of Ohio (OTCO) to provide training for water system and laboratory personnel.

The Ohio Environmental Protection Agency's rules established standards for training, experience, testing and continuing education, certification, and renewal of licenses. The level of certification required varies with system size and complexity. Laboratories and analysts are certified for specific analyses. The Operator Training Committee of Ohio and others offer courses on various drinking water topics throughout the state.

<b>Typical Classification of Drinking Water Systems Serving 250-3,300 People</b>		
	<b>Water Source</b>	
<b>Treatment Technology Used</b>	<b>Groundwater</b>	<b>Surface Water</b>
Disinfection only	Class I	–
Iron removal	Class I or II	–
Ion exchange softening	Class I or II	–
Conventional surface water treatment	–	Class II or III
Precipitation softening	Class I or II	Class II or III

<b>Operator Qualification and Training Requirements</b>			
	<b>Class I</b>	<b>Class II</b>	<b>Class III</b>
Minimum education	High school graduate or GED		
Recommended training	OTCO Water I	OTCO Water II	OTCO Water II
Experience varies with formal education (for example, for high school graduate)	12 months (12 months)	12-36 months (36 months)	12-60 months (60 months)
Testing	Difficulty increases with level of certification		
Continuing education—contact hours	12 in 2 years	24 in 2 years	24 in 2 years
Renewal	\$15 every two years		
Testing fee	\$45.00	\$55.00	\$65.00

Testing is conducted in Columbus every April and October.





# Worksheet 10

Toledo Blade, Feb. 21, 1998

## Water troubles swirling near Delta State complaint alleges violations

By Janet Romaker  
*Blade Staff Writer*

DELTA — A 12-count complaint, alleging several violations of the state's drinking water laws, has been filed by the Ohio attorney general against a mobile home park near Delta.

The complaint was filed in Fulton County Common Pleas Court against the Forest Park Mobile Home Associates, a Michigan partnership, and Peter Kostishak, general partner, of Ann Arbor.

Residents at Forest Park have complained about water problems for a long time. Many residents refuse to drink the smelly, brackish water that spits and sputters from the taps in their homes.

In the last four months, 10 people have moved out because the tap water isn't fit to drink. Brian Fitzsimmons, manager of the mobile home park, said yesterday.

The mobile home park has a public water system from a groundwater source and its own wastewater treatment plant. The Ohio Environmental Protection Agency has repeatedly cited the park in recent years for water quality violations.

More than a year ago, Mr. Kostishak was ordered by Common

Pleas Judge James Barber to provide residents with clean, safe water. Since then, drinking water from the village of Delta has been delivered to the mobile home park and stored in a 1,000-gallon tank. Residents fill jugs with water from the tank.

Mr. Kostishak could not be reached for comment.

"You can't wash clothes in the water. Sometimes the water comes out black," Mr. Fitzsimmons said. "You could drink it, but it's not recommended."

According to the complaint filed Thursday by the attorney general's office, Forest Park Mobile Home Associates exceeded the maximum contamination levels for microbiological contaminants and for radiological contaminants. The complaint says the mobile home partnership exceeded the action level for lead and failed to properly monitor the water for lead.

The partnership allegedly deepened the drinking water well and installed a water treatment system in 1996 without receiving approval from the Environmental Protection Agency.

Other allegations include that the partnership failed to maintain minimum chlorine residual through its distribution system; operated the water system without an updated contingency plan, and failed to develop a sample siting plan for coliform monitoring.

Monitoring violations, such as for nitrate and sulfate, are alleged in the complaint.

The mobile home partnership was cited for failing to notify the park's residents of its violations from 1994 to the present and for effluent violations in connection with discharging sewage or waste into Fewless Creek.

The complaint, which seeks civil penalties of between \$10,000 to \$25,000 per day for each violation, asks the court to issue an injunction to stop the defendants from violating the state's drinking water and wastewater disposal rules and regulations.

Residents at Forest Park have asked the village of Delta to extend a waterline to the mobile homes. About 80 people live at the mobile home park on County Road E.

"That's all the park really needs. I'm told we could get city water sometime this summer, but we've been promised city water for three years. If I see pipe on the ground and a ditch being dug, I'll believe it," Mr. Fitzsimmons said.

He and most others who live at the mobile home park get their drinking water from the storage tank, but many are selective about using the water.

"It's OK for boiling rice or for mashed potatoes," he said, but he prefers store-bought water for his coffee.

The park's water causes corrosion, Mr. Fitzsimmons said.

Residents have complained that the water ruins appliances, plumbing, and hot water heaters.

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**Issue:** Providing safe drinking water is a serious public health issue, therefore, enforcement actions may be necessary if water suppliers are neglecting their responsibilities.

How would you make sure that the people responsible for each of the drinking water systems in the state are being careful and conscientious?

## Worksheet 10—page 2

Only our elected representatives can prescribe penalties if enforcement actions are necessary. The goal the U.S. Congress wrote in the Safe Drinking Water Act is to bring all water systems into compliance so that all customers can rely on receiving safe water.

Sometimes a water system owner does not cooperate and does not work toward the compliance goal. In these instances, enforcement actions may be necessary. The U.S. Congress mandates through the Safe Drinking Water Act that the states adopt the authority to assess civil and administrative penalties.

- Civil penalties of up to \$25,000 per day. Civil penalties are assessed by the courts.
- Administrative penalties of up to \$5,000 can also be assessed for non-compliance with the law. Administrative penalties are assessed by the enforcement agency and may be appealed in the courts.

The Ohio Legislature has authorized the director of the Ohio Environmental Protection Agency to order corrections to drinking water systems and to seek civil or administrative penalties for violations. The director may also seek criminal prosecution for felonies, such as falsification of records.

The Ohio Environmental Protection Agency has established a program of escalating enforcement. Enforcement steps may include:

- Notice of deficiencies.
- Notice of violations.
- Warning letter from the Ohio Environmental Protection Agency Drinking and Groundwater Division Chief.
- Warning letter from the Ohio Environmental Protection Agency Director.
- Agreed upon findings and orders.
- Referral to the attorney general's office.
- Court hearings.

If a water system is cooperative in correcting deficiencies identified by the Ohio Environmental Protection Agency field staff, no penalties are assessed. Penalties are always assessed if the case must be referred to the attorney general's office.

# Worksheet 11

Lima News, Jan. 6, 1998

## Ramada closes over water woes

By Robert Snell  
*The Lima News*

The general manager of the Ramada Inn Lima chained its doors and "evacuated" guests Sunday after repeated problems with the hotel's water supply, *The Lima News* has learned.

At least five guests developed rashes Monday, which guests blamed on a decrepit well-water system that pumped "orange, rusty water" into hotel sinks, toilets and shower stalls.

"The rooms were filthy. The toilets were orange. They told us they had iron in the water," Irvine, Calif., resident Joe Adlesh said after returning home Monday night with a rash he said he contracted during his hotel stay.

"It's like chickenpox. My wife (Virginia) and I have terrible rashes and red dots and little scabs. We're concerned because we brushed our teeth with the water and wonder what's happening on the inside. We're wondering if it's worse than a skin rash."

No one answered the telephone at the 101-room Ramada Inn on Monday but the

Bluelick Road hotel chain's corporate offices confirmed the hotel was closed. A corporate employee could not provide an explanation for the closing and referred all calls to the hotel's general manager, Don VanSchoyck.

VanSchoyck said he "evacuated"

the hotel after consulting with the hotel's corporate office.

"All I'm at liberty to say is I have water problems, people are working on it and by the end of the week or the first of next week we should be operational," he said.

"I shut the hotel down on a voluntary basis to correct problems we're having. I've gotten a rash of phone calls on that; as far as the (Environmental Protection Agency) or the health department shutting us down. But nobody shut us down. Corporate and I decided to shut us down."

VanSchoyck said Ramada Inn never has been fined by the EPA or the health department and said the water problems are shared by well users along Bluelick Road.

He added that some of the hotel's part-time employees have filed for unemployment benefits and are waiting for the hotel to reopen.

The water problems have attracted the attention of the Ohio EPA and the Allen County Health Department. Health department Commissioner David Rosebrock called the state EPA after receiving a complaint Monday. He said the EPA governs well-water systems and previously has monitored the hotel's supply. His concern focused on the two items that have received licenses from his office: the hotel's swimming pool and restaurant facilities.

"We'll keep in touch and when the supply is reconnected we'll want to make sure the lines are flushed out properly," he said.

He labeled the water problem as the most recent episode in a long-

running ordeal that dates back to the 1970s.

"That facility has always had problems with quality of water. Its high iron and sulfur content takes constant attention to get a decent supply because of the ground water," Rosebrock said.

VanSchoyck said Ramada has spent \$2.7 million renovating the hotel since the franchise bought it in March 1996. He said the hotel is pushing to renovate the water system now that workers have completed interior renovations.

The Adleshes spent Sunday night in the hotel for free because they had to leave early Monday morning and asked for permission to stay even though VanSchoyck had evacuated guests and employees.

The Adleshes were in town visiting relatives and attending a wedding reception at the hotel. They paid \$180 and want a refund — after they visit their doctor Tuesday.

Their in-laws, Robert and Claire O'Neill of Bear, Del., and their son Andrew, also are suffering from an identical rash and are planning to visit their doctor today after spending four nights at the Ramada. O'Neill filed a claim against the hotel chain Monday.

"We're not sick but three of us are itching, we've never had anything like that before, O'Neill said. "I kept giving them chances, it was convenient and didn't feel like moving. I've been in some real rinky-dink hotels but I've never been in a hotel like that.

"But it didn't give us a bad taste of Lima in our mouth."

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**Issue:** Not only should drinking water be safe to drink, but also pleasant to use.

How would you make sure that the drinking water in your community always smells and tastes good, is not too hard, and does not stain clothing or plumbing fixtures?

## Worksheet 11—page 2

Voluntary standards for certain (but not all) aesthetic contaminants have been set by the U.S. Environmental Protection Agency as directed by the U.S. Congress. These are called secondary standards and are intended to protect the public welfare by making the water esthetically acceptable to the public.

Water systems are encouraged to try to meet these secondary standards so that:

- They will receive few complaints from their customers.
- Their customers are not tempted to reject their safe water supply in favor of an unsafe, but more pleasant water source.

The Ohio legislature has required the director of the Ohio Environmental Protection Agency to regulate aesthetic contaminants in drinking water. The Ohio Environmental Protection Agency has adopted voluntary secondary standards that are the same as those developed by the U.S. Environmental Protection Agency.

Community water systems in Ohio must meet the secondary standard for iron and manganese. No secondary standards are in place for hardness or hydrogen sulfide. Many water systems choose to remove them, however, due to customer demand.

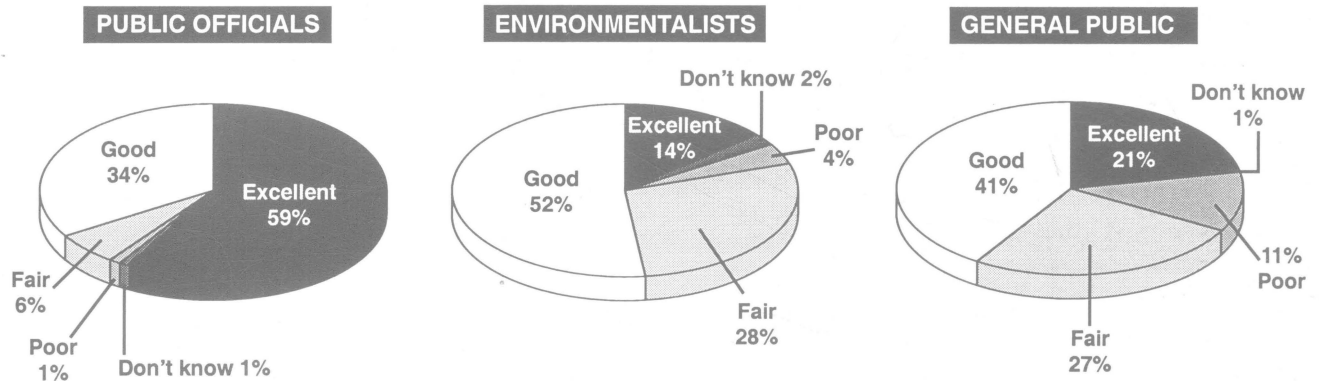
# Worksheet 12

Times Union, Albany, New York, Oct. 6, 1996

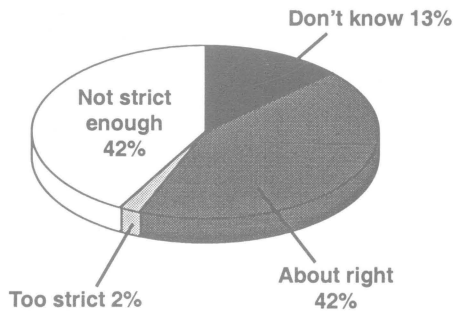
## Public attitudes toward drinking water

Two of every five Americans rate the quality of their drinking water as fair or poor and say federal standards are not strict enough. Many are willing to pay higher water bills for their utilities to meet standards.

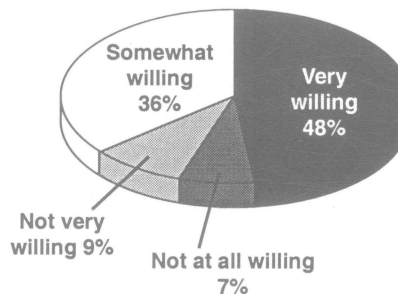
### Officials rate quality higher than others



### Customers doubt U.S. standards too strict



### Customers willing to pay more to meet U.S. standards



Note: Poll taken in March 1993 of 1,603 adults, plus 100 public officials and 49 environmentalists. Percentages may total more than 100% due to rounding.

Graphic by Patrick Zeller, San Antonio Express-News

**Issue:** Drinking water suppliers need to think ahead and be prepared for increased expectations from their customers.

What is the future direction of the laws and regulations regarding public water supplies?

## Worksheet 12—page 2

The U.S. Congress has already passed the following laws, with reauthorization on a ten-year cycle. The next reauthorization is scheduled for 2004.

- 1974—the Safe Drinking Water Act was passed by the U.S. Congress, setting the standard for safe drinking water.
- 1986—the Safe Drinking Water Act was reauthorized and amended by the U.S. Congress, expanding the standards. Also introduced was the concept of well-water protection.
- 1996—the Safe Drinking Water Act was again reauthorized and amended by the U.S. Congress. It expanded the focus of preventing contamination to all water sources. The Act also introduced the concept of enhanced water system management, and established a drinking water loan program.
- 2004—the Safe Drinking Water Act will be reconsidered by Congress. What do you think the new initiatives will be?

The Ohio Legislature requires the director of the Ohio Environmental Protection Agency to adopt drinking water regulations that are at least as stringent as those adopted by the U.S. Environmental Protection Agency to retain primary enforcement authority (known as primacy). Therefore, the Ohio Environmental Protection Agency updates its program in response to changes in federal law. The director of the Ohio Environmental Protection Agency must justify to the Ohio legislature any rules that are more stringent than the federal rules.

## Worksheet 13

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### Talks begin on mandates

Representatives of water systems and state regulatory agencies, as well as other stakeholders, got their first crack last month at commenting on the US Environmental Protection Agency's plan to adopt Safe Drinking Water Act-mandated regulations by fall of 2000 to enhance surface water treatment regulations for small systems and control microbial risks posed by recycling of filter backwash waters.

#### Enhanced Surface Water Treatment Rule

As a starting point for discussing development of the Long-Term 1 Enhanced Surface Water Treatment Rule for systems serving fewer than 10,000 people, USEPA representatives simply described the tightened turbidity limits and disinfection benchmarking requirement it will finalize in November for larger systems under the negotiated Interim ESWTR. They then asked whether some 4,500 small systems that conventionally treat surface water should also be required to meet those same criteria.

USEPA noted that the LT1ESWT rulemaking will provide such systems with the regulatory framework to ensure maintenance of microbial control as they comply with requirements of the Stage 1 Disinfection By-product Rule, also due in November.

USEPA specifically solicited input on technical and operational limitations that small systems might face in implementing the Interim ESWTR requirements (e.g., using online turbidimeters to monitor individual filter performance and calculating their disinfection benchmark) and troubleshooting problem filters. Comments generally reflected strong concerns about the capacity of small surface water systems to meet interim rule requirements. No alternative approaches were presented, however.

USEPA also described results from Comprehensive Performance Evaluations of 48 small systems, concluding that raising awareness and coordinating assistance resources are key factors for improving treatment performance.

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**Issue:** Everyone needs an opportunity to get involved in changing the way water systems are regulated.

How can you get involved in changing the way drinking water systems are regulated?

## Worksheet 13—page 2

U.S. citizens can get involved in the process in two ways.

Under the Safe Drinking Water Act, rules are enacted at the federal and state level.

- Interested groups can be involved in the regulatory negotiation process. Check if your state or national association is involved in the process. If not, request an opportunity to get involved.
- Individuals can comment on proposed rules. Contact the U.S. Environmental Protection Agency by accessing [www.epa.gov/ogwdw/regs.html](http://www.epa.gov/ogwdw/regs.html) to review proposed rules.

The Safe Drinking Water Act must be reauthorized by the U.S. Congress every 10 years.

- Individuals can contact their congressional or senate representative to support or to suggest changes in the law.
- Interested groups can lobby key committee members or even the entire Congressional delegation.

The Ohio Legislature has adopted specific processes for adopting drinking water laws, regulations, and policies. Citizen and group input is sought at several stages of the adoption process. To review copies of proposed Ohio drinking water laws and rules access [www.epa.state.oh.us/ddagw/ddagwmain.html](http://www.epa.state.oh.us/ddagw/ddagwmain.html).



The Ohio legislature has adopted specific processes for adopting drinking water laws, regulations, and policies. Citizen and group input is sought at several stages of the adoption process.

