

Groundwater

Where groundwater pollution is a big headache

By WINSTON WOOD
Ottaway News Service

LEHILLIER, Minn. — Every Friday, a state pollution control agency truck pulls up to 202 N. McKenzie Street in this small southern Minnesota town and delivers Bea Jans her weekly supply of water.

For over a year, Jans and her neighbors have had to rely on state-supplied water jugs for their drinking and cooking needs. The underground wells they depended on are polluted with potentially harmful levels of an industrial solvent that authorities found buried in an illegal dump nearby.

Further, LeHillier wells also show traces of sewage that is seeping into the water from worn-out septic tanks in the area. Tests indicate it may be spreading toward the community well system of neighboring Mankato. Tensions over the situation have developed between the two towns, preventing the cooperation needed to solve their mutual pollution problems.

The impasse frustrates LeHillierites. Using bottled water hasn't been too troublesome — "It just means having a lot of jugs sitting around," Jans says. But, she adds: "It sure would be nice to be able to turn on the faucet again. It gripes me."

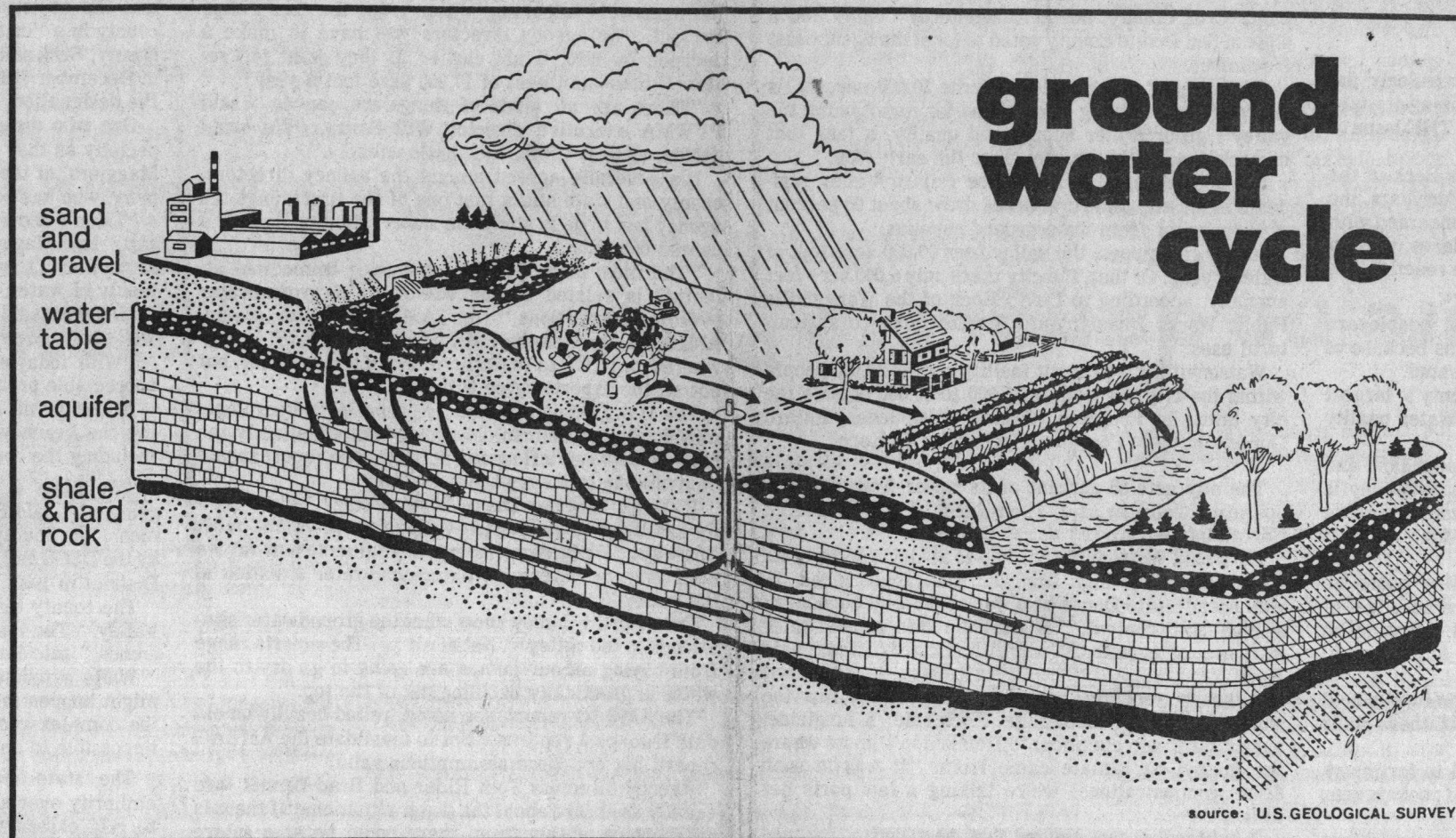
That anyone in Minnesota — "The Land of 10,000 Lakes" — should depend on plastic jugs for water at first may sound absurd.

But in fact, 75 percent of the state's residents rely on private or community wells just as vulnerable to groundwater pollution as Mrs. Jans's. And evidence is mounting that Minnesota wells are being spoiled by a range of contaminants that even scientists have problems tracking.

Indeed, across the country — as seen from increasingly regular reports of well closings, illnesses and costly cleanup projects — groundwater contamination has become a major headache for many communities.

One hot August day two years ago, for example, John McCarey went to the sink in his Circleville, N.Y., general store. But instead of the refreshing drink he expected, the faucet spewed a mixture of water and gasoline, creating a mist that burned his eyes.

Two of McCarey's neighbors found they too had contaminated water, which was traced to a leak in the storekeeper's underground gas tanks. McCarey dug up the tanks, but



pounds persisted in their water. That same year, New York authorities estimate, there were about 2,000 similar gas leaks or spills around the state.

Meanwhile, officials in eastern Kentucky are acting against another kind of seepage which is contaminating groundwater. Both wells and small streams have been soured by brine pumped up by the area's many oil and gas drilling operations.

For decades, well water was both plentiful and necessary to supply the needs of this region where mountainous terrain made community water systems prohibitively expensive. Some now fear that years of drilling have altered the local water table. Brine pollution is already evident, giving a sulfurish stench to many wells and discoloring laundry.

Westport, Mass., is a world away from Appalachia, but the differences haven't protected the town's wells. A small town near the old whaling center of New Bedford, Westport got a scare last fall when several residents learned their wells were laced with Temick, a pesticide.

Source of the pollution — which is lethal to humans if taken in large doses — was a local farmer who had

was hurt by the incident, but a heated dispute followed over who would pay for cleanup: the farmer, the Union Carbide Corp. which makes Temick, or the state.

Similar incidents are repeated around the nation almost daily, worrying lawmakers both in state capitals and Washington. Government hydrologists now estimate 51 percent of the people in the country now depend on wells for their water — not just in rural areas, but also cities like Miami and San Antonio. Since groundwater reserves outnumber surface water supplies by 24 to 1, most experts say well use will grow even higher.

Some members of Congress are now mobilizing over the issue, spurred by well problems in their districts and recent studies warning of a national groundwater crisis. Rep. Robert Edgar, D-Pa., who has been pressing for a presidential commission to attack the problem, says the need for federal action is unavoidable.

"My colleagues are finding the horror stories are happening or could happen in their own backyard," Edgar says. "Like energy was in the '70s, groundwater pollution will be the issue of the '80s."

plex since all states and 15 federal agencies already have programs to protect it as a vital natural resource. But because they are often outgrowths of efforts to control other problems — such as toxic waste dumps or nuclear power plants — the result is a patchwork regulatory quilt that's increasingly called into question.

Tempering this mood — at least as far as critics of government aid programs are concerned — is the fact that current estimates are imprecise on how much of the nation's groundwater is polluted. True levels may never be known because, given the geological difficulties involved, comprehensive tests are impossible.

Relatively speaking, most experts believe that contamination is low. Last fall, the congressional Office of Technology Assessment reported that between 1 and 2 percent of the nation's groundwater is polluted. A survey by the Environmental Protection Agency found only 3 percent of public well systems drawn from groundwater contaminated at levels the agency considers hazardous.

Still, even at 1-3 percent the prob-

like the following:

- In 1982, federal and state authorities closed more than 1,100 wells around the country because of pollution. Since 1979, about 8,000 wells have been closed.

- Last year, OTA identified 200 potentially harmful contaminants found in wells around the country. Of those, 150 were organisms or organic chemicals, 30 were inorganics like heavy metals, and 30 were radionuclides.

- This spring, a congressional oversight committee said it found that of 1,246 federally regulated hazardous waste sites, 559 showed signs of toxics seeping into groundwater.

Such pollution can have both economic and health effects. When farm or industrial wells are closed it hurts productivity. Waterborne illnesses can take many forms, including skin rashes, liver and kidney damage, blindness, nervous impairment, birth defects and cancer. Accurate information linking specific contaminants to specific health problems, though, frequently is unavailable.

So far, the major sources of

of these tanks in the region — many of them old and rusted — this is now seen as the major groundwater threat in the Northeast.

The nation's 93,000 landfills — garbage dumps — have also caused major well problems. EPA officials cite two reasons why: Few landfill managers screen wastes for hazardous materials like insecticides or solvents that don't belong there, and many older dumps are built on land that is susceptible to groundwater problems.

These so-called "point sources" of pollution are the most clearly documented, but by no means the only ones to concern well owners. "Non-point" sources generally escape regulation, but still pose serious hazards. Major non-point pollution sources include highway de-icing salts, pesticide and fertilizer runoff from fields, waste piles and culm banks at mining sites, and accidental spills from pipelines and tanker trucks.

The nation's 20 million household septic tanks and seepage from livestock manure are blamed for a significant increase in the amount of nitrate now found in the nation's groundwater. The U.S. Geological Survey recently reported about 8,000 of nearly 124,000 wells it surveyed had nitrate levels that exceed federal levels for public drinking water. Nitrate by itself is relatively harmless, but it can be converted by the body into nitrite, which in large doses is harmful to infants and the elderly.

All told, these statistics, reports and projections are giving increasing weight to the human toll that groundwater pollution has taken across the country.

"In the old days, wells went bad all the time, but people considered it a natural accident. They'd just dig a deeper well and hope for the best," notes Michigan Department of Natural Resources water specialist Dan Darnell. "Nobody bothered to ask why the well had gone bad in the first place. There just wasn't much public awareness."

In LeHillier, Circleville, Westport and hundreds of communities like them, this is definitely no longer the case.

Reaching for the bottle

By KEITH MURAOKA
Sentinel Staff Writer

damage had been done. He and his neighbors were forced to hook into new wells when high levels of benzene and other petroleum com-

applied it to a potato crop two years earlier. The area's sandy, porous soil allowed the Temic to drain into 16 nearby wells. No one

From this perspective, the groundwater issue is the more com-

lem is considered significant because it often appears in areas of high groundwater reliance. Concern is fueled further by developments

groundwater pollution have been improper or illegal toxic waste disposal and leaking underground storage tanks. Because of the large number

SANTA CRUZ — Out of concern for the quality of water they're drinking, hundreds and possibly thousands of people in the Santa Cruz County area have taken to buying bottled water for drinking and cooking purposes. Others are buying sophisticated filtration systems to cleanse tap water.

A Sentinel survey of local bottled water companies shows an estimated 30 to 35 percent increase in customers just in the past year alone, with no letup in sight. Grocery stores are also experiencing about a 30-percent jump in bottled water sales, and a water filtration company spokesman estimates his sales locally as jumping 20 percent a year.

It's all due to an increasing awareness of water quality — not just here, but across the nation.

Barry Benning, vice president in charge of sales at Sierra Springs Water Co., maintains not enough emphasis is being placed on water quality. "There are fewer standards and the general public knows it," he says.

According to Howard Conner, vice president of Rayne Water Systems in Santa Cruz, "Some people just don't like the taste or smell of their tap water. Others just want to be very safe about what they drink."

Adds Mike Santor of Crystal Springs Water Co. in Santa Cruz: "People are becoming more health-conscious. When tap water starts to smell or taste bad, people have a tendency to start wondering what they're drinking."

And wondering they are.

Suzie Stewart of Santa Cruz, a customer at Shoppers Corner, says she goes through at least two 2½-gallon containers of bottled water a week.

"You never know what sort of chemicals the water company puts in our water," she says. "I'm not going to drink it unless I'm sure it's not going to harm my family."

For \$10 to \$20-a-month, much of the public are following Stewart's lead.

"It just behooves families to drink a product they know is worth consuming," says Benning, who notes that Sierra Springs' product comes from natural springs in Apple Gate, located north of Auburn. Crystal Springs' water comes from a natural spring on La Madrona Drive in Scotts Valley.

Conner of Rayne Water Systems says people can successfully treat their water with a three-stage reverse osmosis filtration system. At a cost of \$550, sales of those systems are up 20 percent.

Even the inexpensive filters that hook onto the faucet are selling well, according to a spokesman at Orchard Supply Hardware in Capitola. There is much debate, however, over how well those filters work.

When groundwater becomes polluted

By WINSTON WOOD
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WASHINGTON — The recent, growing concern over purity of the nation's groundwater is ironic.

Over a dozen federal agencies and all states already have programs to protect those underground supplies which hydrologists say now provide the water needs of 51 percent of the nation's population. Yet despite these efforts, there is general agreement that pollution from many sources probably is getting worse.

No consensus has emerged on how best to attack the problem.

Some states have launched aggressive campaigns to clean up and protect their residents' wells; others wait for a sign — and funds — from Washington. The cost-conscious and anti-regulatory Reagan administration, however, insists that groundwater control is primarily a state responsibility, but it has ordered the Environmental Protection Agency to help with planning and research.

These varying approaches, some at cross-purposes, appear to have satisfied no one and — fueled by warnings from scientists and environmental groups of a possible groundwater crisis — moves are being made in Congress to bolster federal efforts.

Groundwater protection plans have already passed the House, and a related bill was introduced in the Senate during the summer. The White House opposes the drive and some legislators predict the ensuing struggle could be one of the big environmental and regulatory battles of this Congress.

Currently, a comprehensive federal groundwater protection policy does not exist. The push to create one has taken almost a decade.

Late in the Carter administration, EPA proposed a national program that would have classified and protected groundwater reserves — known formally as "aquifers" — according to use and encouraged states to develop their own protection plans.

Governors of several states — particularly in the West where water use is a touchy political issue — objected to what they considered federal infringement on local prerogatives. President Reagan,

who campaigned on cutting federal redtape, withdrew the plan shortly after taking office in 1981.

EPA then struggled under three different administrators to devise a compromise to meet local needs while limiting federal involvement and money. Meanwhile, programs aimed at preventing groundwater pollution from such government-regulated activities as hazardous waste dumps, nuclear power plants, and industrial runoff, continued with mixed results.

Last summer, EPA finally released its plan, a groundwater protection "strategy" that noted contamination is a severe problem growing worse — but not one that requires a major new federal regulatory program.

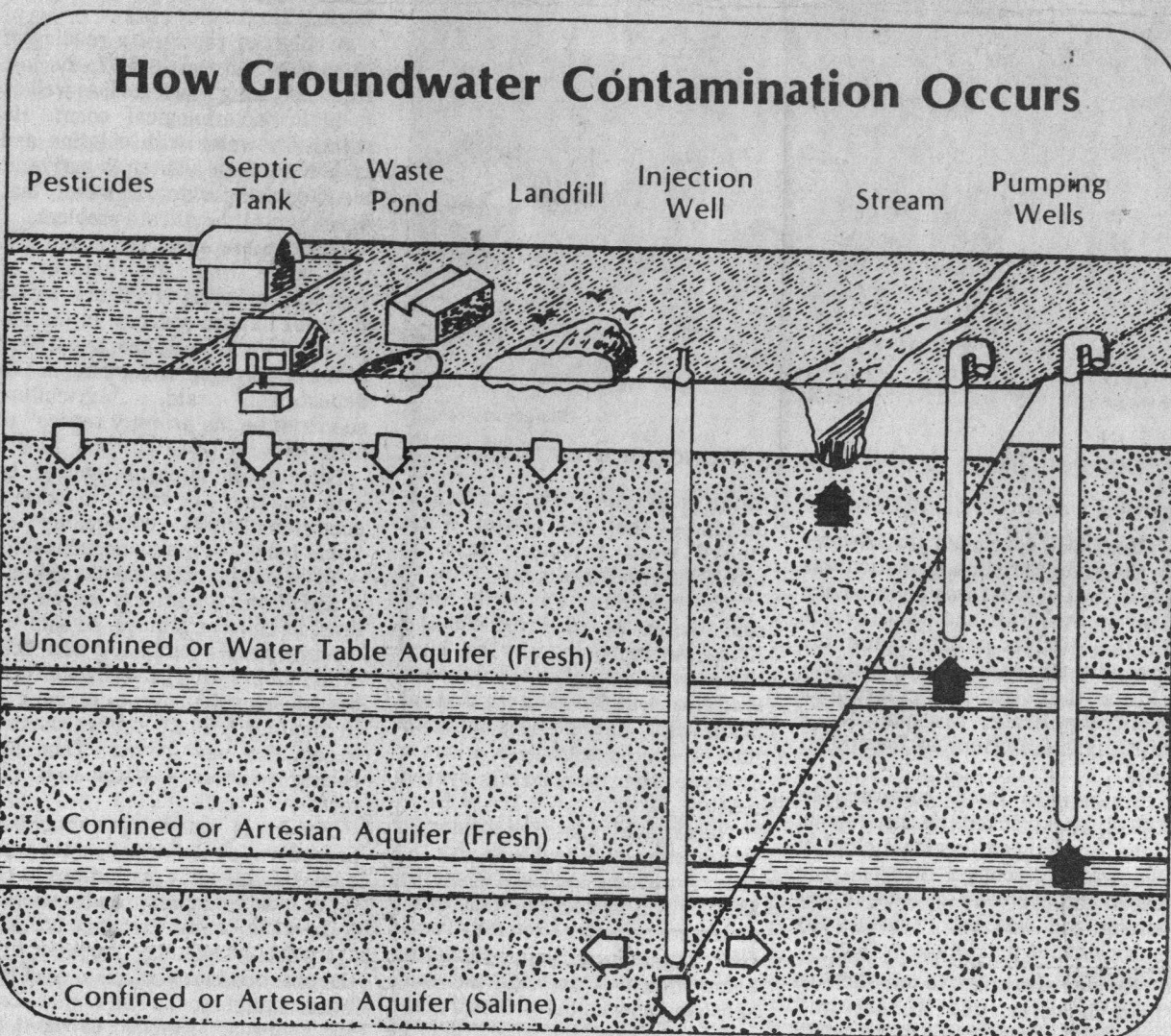
Instead, the agency said state governments have primary responsibility for groundwater protection and EPA's responsibility was to provide technical support to help them develop the best solutions.

Specifically, the plan created a new Office of Groundwater Protection within the agency to coordinate efforts by EPA and other federal departments to protect groundwater using current programs. The OGP also encourages state action through a \$7 million program of planning grants.

The heart of the program is a plan that ranks underground drinking water supplies into three classes, each eligible for different levels of protection.

Aquifers found highly vulnerable to pollution would be guarded by bans on the placement of hazardous waste sites above them and perhaps the use of some pesticides. Most drinking water reserves would be covered by current federal protections against industrial runoff, toxic wastes and other threats, but would get no special treatment. Finally, groundwater found unusable because of manmade or natural pollution would get no protection and in fact be eligible for hazardous waste storage from other areas.

The plan met mixed reviews. Industry leaders hailed it as pragmatic, while environmentalists called it a "non-policy." Several members of Congress, led by Henry



Waxman, D-Los Angeles, in the House, and David Durenberger, R-Minn., in the Senate scrambled to fill the void with a tougher approach.

"If I were doing a federal groundwater strategy, I don't think I'd put much effort into classifying aquifers," Durenberger said. "That really is a job for state and local government. The job for the federal government is to get the sources of pollution under control."

Chairman of the Senate environment subcommittee, Durenberger held hearings on the issue this summer and will offer a groundwater protection bill in the Senate soon. His plan reportedly will give the states incentives to more closely regulate land use to protect the aquifers below. Federal action would be taken to control pollution sources now ignored by EPA like household septic tanks.

Alvin Alm, a former top EPA official who worked on the groundwater strategy and now is an

environmental consultant to industry, says Durenberger's approach may work with other pollution sources, but groundwater is unique and has to be treated differently.

"Groundwater is difficult to monitor, recovers slowly in complex underground formations and is costly to clean up," Alm told Durenberger's subcommittee. "A great deal of groundwater is not in a pristine state but is highly saline and hence unusable. Because of these differences, groundwater control efforts cannot mirror conventional air and water pollution and must be set as local conditions require."

Several states, taking a cue from local groundwater emergencies, have done just this.

Florida, for example, is heavily dependent on groundwater; it moved to protect its reserves after contamination scares showed how vulnerable they were. In 1983, the state

legislature passed a Water Quality Assurance Act which banned future toxic waste dumps and toughened pesticide controls.

Further, the state EPA now monitors wells across the state for water quality. It also sponsors "Amnesty Days" when individuals may turn in harmful materials found in their homes — like poisons and solvents — that otherwise would go to the local dump and filter into the water table.

Wisconsin and Arizona have also been aggressive on the issue, establishing programs to prevent further pollution of groundwater reserves while also working with industry to lessen the costs of such regulation.

For all this initiative, though, groundwater problems continue to appear, further fueling demand for a comprehensive federal program whether the Reagan administration wants one or not.