Hidden wells, dirty water

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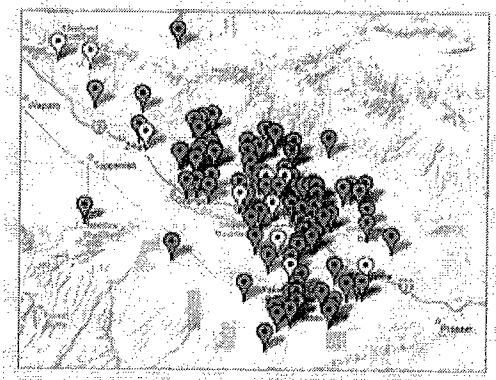
Contaminated Well Map

Study an interactive map of contaminated private wells in the Lower Yakima Valley.



VIDEO:
"Hidden Wells, Dirty Water"

VIDEO:
December groundwater contamination meeting

For more information:
- Nitrates
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- How can nitrates be reduced in my water?
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Recent complaints about manure spraying - The state Department of Agriculture's most recent annual report said that overapplication of liquid manure to crop fields and poor record keeping continue to be a problem at many of the state's dairies. Overapplication is a possible source of nitrate cont...

But progress here has been virtually nonexistent - Melodie Selby was excited. A veteran water-quality engineer at the state Department of Ecology, Selby and others had been trying for years to get Yakima County commissioners interested in tackling groundwater contamination in the Lower Yakima Valley. Then...

Part 3: Others work together - OTHELLO -- It took dairyman Dwain Forester a year before deciding to join an unusual cooperative effort to combat nitrate contamination across the Mid-Columbia Basin. "I did not follow easily," said Forester, a plain-spoken bear of a man who runs a mediu...

It's time to fix deplorable groundwater conditions - "What we've got here is a failure to communicate!" -- From the 1967 movie "Cool Hand Luke" One disturbing conclusion to draw from this newspaper's recent series, "Hidden wells, dirty water" is that there is -- to put it mildly -- a glaring lack of dialogue...

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From the Yakima Herald-Republic Online News.

Posted on Monday, December 08, 2008

Valley lawmakers object to EPA's role in dirty wells issue
by LEAH BETH WARD
Yakima Herald-Republic

While publicly acknowledging a drinking-water problem in their district for the first time, Lower Yakima Valley legislators said Monday that the federal government has no business getting involved in a solution.

"This is state, not federal, water," Rep. Bruce Chandler, R-Granger, said in a telephone interview.

Chandler and Sunnyside Republicans Rep. Dan Newhouse and Sen. Jim Honeyford said in a letter to Gov. Chris Gregoire that the federal Environmental Protection Agency overstepped its authority by conducting a meeting in Zillah last week to explore solutions to shallow drinking wells with high levels of nitrates.

In the first meeting of its kind, the EPA led about 15 local, state and federal agencies with a hand in water-quality and health in a brainstorming session on ways to attack the problem.

"We urge you to clarify to the EPA that leadership on this matter most appropriately resides with the Washington state Department of Ecology," the 15th Legislative District members said.

EPA responded by suggesting that the lawmakers are late to the problem and public confidence could be eroded by suddenly turning the matter over to the Ecology Department, which in the past has not been aggressive about responding to the problem.

"To draw a dividing line between EPA and other agencies, that's not needed," said Marie Jennings, drinking water manager. "I think we need to look at all resources available to address this problem."

Jennings said EPA has grant and loan programs that could finance public water systems if that turns out to be a long-term solution. She added that the agency is already well acquainted with water quality in the Lower Valley because it has jurisdiction over drinking water on the Yakama reservation.

While the legislators' opposition to federal intervention isn't unexpected, the letter marked the first time they agreed something needs to be done.

"A response is warranted in this situation, but not from a federal agency based in Seattle,"

Honeyford said in a news release accompanying the letter.

A series of Yakima Herald-Republic stories in October prompted the EPA meeting. Newhouse said the stories brought needed attention to the matter. "(The Herald-Republic) brought this to the forefront," he said.

The series showed how a wide range of local, state and federal agencies has done little to remedy the contaminated groundwater that thousands of rural residents, including many low-income farm workers, depend on for drinking water. Thursday's hearing by the EPA was the first time that all agencies gathered to discuss the problem.

Tom Tebb, the Ecology Department's regional director in Yakima, attended the meeting and called it successful in a statement issued Monday.

"As a result of the meeting, Ecology, the state departments of Agriculture and Health, and Yakima County have agreed to work with EPA to develop a strategic plan that addresses immediate health concerns by seeking alternative sources of drinking water for those most affected, and provide a broad-based information and outreach effort on risks associated with these contaminants in both Spanish and English."

The legislators said the "best solution" would be to create a regional authority, such as a groundwater management area similar to one set up by four counties in the mid-Columbia Basin.

Nitrate levels in groundwater in Grant, Adams, Franklin and Lincoln counties have leveled off since the area began a program more than seven years ago to modernize irrigation practices and track the flow of groundwater.

"It's proven successful before," Chandler said in a telephone interview.

Yakima County Commissioner-elect Kevin Bouchey, who attended part of the EPA meeting last week, said he'd consider supporting a groundwater management area. The Washington State Dairy Federation is behind such an area as long as golf courses and other users of commercial fertilizer rich in nitrogen participate.

Others say a groundwater management area takes too long to establish and can be costly. The Columbia Basin area, which receives grants and earmarks from state and federal agencies, is seeking another $2.5 million from the 2009 state Legislature to continue its main project, mapping the underground aquifers.

Nitrate contamination comes from multiple sources, including livestock manure, failing septic systems, old wells in disrepair and commercial fertilizer. It is a particular problem in the Lower Yakima Valley, where wells are shallow and the soil is highly porous.

Nitrates are often an indicator that other contaminants are present, such as bacteria and pathogens. Nitrates pose a health risk to infants, pregnant women and people with chronic disease.

Despite the looming budget shortfall for the fiscal year that starts next summer, Chandler said the state is still projected to see an increase in revenue of about $1.5 billion and can afford to make sure people have clean water.

"It's not that we don't have any money. Safe drinking water is a core issue," Chandler said.

He added that helping residents drill deeper wells into clean aquifers may be a reasonable and more affordable solution than financing construction of public water systems. The Outlook elementary school drilled a deeper well a year ago after discovering nitrates exceeded the federal safety limit.

The legislators said they think Gregoire will agree with them that the state should lead a solution to the water-quality problem. Gregoire's office said it hasn't yet received the letter and couldn't comment.

Jessica Gleason, a spokeswoman for U.S. Rep. Doc Hastings, R-Pasco, said he has been following the issue closely.

"Doc is aware there needs to be a solution," she said, noting that he secured funding over the years for the Columbia Basin Groundwater Management Area.

She also said having the EPA host a meeting of agencies "isn't necessarily a bad thing, though Doc has always said those closest to a problem are better able to solve it."

* *Leah Beth Ward can be reached at 577-7626 or lward@yakimaherald.com.*

SARA GETTYS/Yakima Herald-Republic
Sandy Halstead, with the EPA, lists studies on a sheet discussing data that hangs on the wall of the Zillah Civic Center as government agencies and concerned citizens gather to address groundwater contamination in the lower valley held on Thursday, Dec. 4, 2008. A map charting nitrates at sites that have been tested near Sunnyside hangs next to her, while throughout the room, graphs and lists of ideas, agencies and issues are taped to the walls with notepads and pens nearby so that those involved in the meeting can add their own

perspectives.

From the Yakima Herald-Republic Online News.

Posted on Thursday, December 04, 2008

Officials will dig deep for solutions to dirty wells

By LEAH BETH WARD
Yakima Herald-Republic

ZILLAH -- Federal officials launched an unprecedented effort here Thursday to attack the long-standing contamination of shallow drinking wells relied on by thousands of low-income rural residents in parts of the Lower Yakima Valley.

But it quickly became clear that the job could be lengthy, complicated, costly and certain to pit a go-slow, soft approach against getting tough on polluters.

"I didn't bring a resolution," Marie Jennings of the U.S. Environmental Protection Agency told about 20 farmers, homeowners, dairy producers and more than 30 midlevel managers from 15 local, state and federal agencies gathered at the Zillah Civic Center.

"I've learned I've stepped into the middle of some very large issues that many of you wanted resolved years ago."

The EPA didn't provide a timeline for what it might do next or publicly detail its options, which range from ordering polluters to provide clean drinking water to financing the construction of public water systems for people on private wells.

Among those attending the meeting was Norma Solano, who spends $200 a month for bottled water for her Outlook home. She said she doesn't want more tests on her well or pitches from salesmen peddling expensive filtration systems.

"I just want the government to do something," Solano said.

The problem has been known for years. A reputable study six years ago found one in five of 195 wells tested in rural areas around five Lower Valley communities roughly between Zillah and Grandview had nitrate levels above federal safety limits.

Despite the evidence of contamination, an investigation by the Yakima Herald-Republic showed that a host of state and local agencies has been unwilling or unable to tackle the problem.

While nitrate contamination can result from overuse of commercial farm fertilizer and even from failing septic systems, suspicion has focused on dairy and livestock operations. The Lower Valley has 72 dairies and 74,000 milk cows, the densest concentration in the state.

Manure is rich in nitrates, which can travel freely through water and can stay in soil for decades.

In a letter to the EPA, the 480-member Washington State Dairy Federation recommended creating a groundwater management area, a legal entity that would have to be created and funded by the state Legislature and professionally managed.

One such area developed in four mid-Columbia Basin counties focuses on modernizing irrigation and farming practices, extensive mapping of groundwater flows, well testing and public education. It is overseen by a board of county commissioners, citizens and farmers.

But some community activists want quicker and firmer action, saying Thursday that the dairy industry's manure-management practices are the most serious and well-documented source of nitrate pollution and should be heavily regulated.

Critics, such as Harrah resident Jan Whitefoot, told the EPA on Thursday to bring out its maximum regulatory firepower, such as heavy fines to help pay for a massive cleanup and the construction of public water systems.

Others called for comprehensive well testing and extensive community outreach for Spanish-speaking households who may not be aware their water is contaminated by nitrates, pesticides and bacteria.

At elevated levels in drinking water, nitrates can post risks to infants, pregnant women, the elderly and people with compromised immune systems.

The Lower Yakima Valley is home to many migrant and seasonal farm workers. The dairy industry also employs many Latino herdsmen.

"A lot of our community doesn't know what's going on and we blame the dairies," said Blanca Bazaldua of Mabton. "We need information about the problem in understandable language so we can help each other."

Others pointed out that farmers liberally applied nitrogen-rich commercial fertilizer for decades because it was inexpensive and particularly good for the sugar beet crop that used to dominate many fields.

"The abuse of nitrogen over the years is our harsh legacy," said Walt George of Sunnyside, a longtime Lower Valley conservation district board member.

But agencies responsible for fixing that legacy problem and regulating and enforcing current water quality laws don't work together.

"The agencies don't communicate, which leaves us citizens running from person to person feeling like a rat in a maze," said Helen Reddout of Granger, founder and leader of Community Association for Restoration of the Environment.

Reddout urged regulators to get tough with large feedlots and dairies that milk thousands of

cows in confined areas, storing manure in lagoons and applying it to crops.

"We don't need more studies. We need enforcement."

But the dairy industry said other users of nitrogen must also be held accountable, including golf courses, homeowners and lawn-care companies. Dairy farmers are the only ones who must keep records and submit to inspections, Jay Gordon, the federation's executive director, said in a news release.

Part of the problem confronting regulators is a lack of information. For example, no one knows how many wells in the Lower Valley are abandoned and uncapped, which makes them perfect conduits for pollutants to reach groundwater supplies.

"I live in Outlook and see houses torn down and fields or orchards put in and I wonder what happens to the well? Is it capped?" said Teodora Martinez-Chavez, coordinator of El Proyecto Bienestar, or the Well-Being Project. The Granger-based project identifies and responds to occupational and environmental health threats faced by farm workers and their families.

Martinez-Chavez, who has lived in Outlook for 30 years, scoffed at EPA's suggestion that residents take advantage of free well testing by water filtration companies.

"I don't want the Culligan man. I want comprehensive testing and education for parents about the health effects on kids."

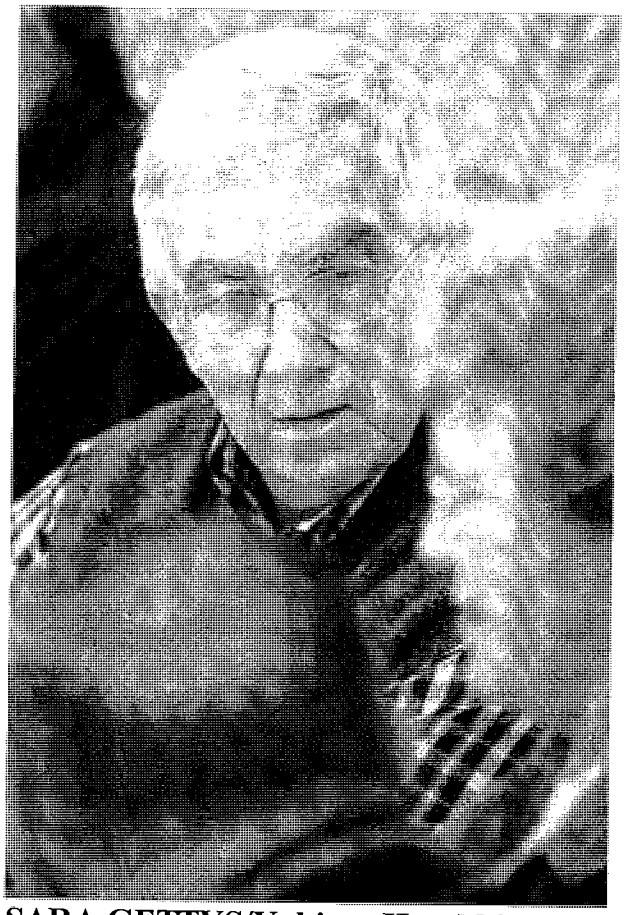
Editor's note: Thursday's EPA meeting was prompted by a series of stories in the Yakima Herald-Republic published in October -- "Hidden wells, dirty water." The stories, which examined how nitrate contamination of groundwater has been largely ignored, can be found at www.yakimaherald.com/dirtywater.

SARA GETTYS/Yakima Herald-Republic
Walt George speaks during as government agencies and concerned citizens gather at a meeting organized by the EPA to address groundwater contamination in the lower valley held at the Zillah Civic Center on Thursday, Dec. 4, 2008.

SARA GETTYS/Yakima Herald-Republic
Government agencies and concerned citizens gather at a meeting organized by the EPA to address groundwater contamination in the lower valley held at the Zillah Civic Center on Thursday, Dec. 4, 2008.

SARA GETTYS/Yakima Herald-Republic
Larry Grenz lives near a dairy in Zillah and has a contaminated well. Government agencies and concerned citizens gather at a meeting organized by the EPA to address groundwater contamination in the lower valley held at the Zillah Civic Center on Thursday, Dec. 4, 2008.

SARA GETTYS/Yakima Herald-Republic
Jan Whitefoot holds up aerial photos of a large dairy during the public comment session as government agencies and concerned citizens gather at a meeting organized by the EPA to address groundwater contamination in the lower valley held at the Zillah Civic Center on Thursday, Dec. 4, 2008.



SARA GETTYS/Yakima Herald-Republic
Bill Flower talks to Ina and Larry Grenz during the public comment session as government agencies and concerned citizens gather at a meeting organized by the EPA to address groundwater contamination in the lower valley held at the Zillah Civic Center on Thursday, Dec. 4, 2008.

SARA GETTYS/Yakima Herald-Republic
Marie Jennings, the EPA's regional drinking water manager, discusses some background information as a meeting including government agencies and concerned citizens to discuss groundwater contamination in the lower valley begins.

SARA GETTYS/Yakima Herald-Republic

Sandy Halstead, with the EPA, lists studies on a sheet discussing data that hangs on the wall of the Zillah Civic Center as government agencies and concerned citizens gather to address groundwater contamination in the lower valley held on Thursday, Dec. 4, 2008. A map charting nitrates at sites that have been tested near Sunnyside hangs next to her, while throughout the room, graphs and lists of ideas, agencies and issues are taped to the walls with notepads and pens nearby so that those involved in the meeting can add their own perspectives.

Links

Watch Groundwater contamination meeting

From the Yakima Herald-Republic Online News.

Posted on Thursday, November 06, 2008

EPA targets groundwater contamination

Agencies will meet to see what can be done

by LEAH BETH WARD
Yakima Herald-Republic

The federal Environmental Protection Agency has begun bringing together local, state and federal agencies in an effort to solve groundwater contamination in the Lower Yakima Valley.

The EPA action was prompted by a series of Yakima Herald-Republic stories published last month about the failure to remedy -- or even examine -- long-standing problems of nitrates contaminating small private wells.

The stories showed how local, state and federal agencies virtually ignored a study six years ago that found one in five of 195 wells tested outside five Lower Valley communities contained nitrates in excess of federal safety limits. Until now, there has been no widespread effort to study the extent of contamination or its causes, measure health effects or warn tens of thousands of well users, including many low-income Latino farm workers living in rural communities.

Nitrate is an odorless compound found in soil and water. It can exceed safe levels by leaching into aquifers from failing septic systems, old wells in disrepair or through excessive application of nitrogen-rich fertilizer. Nitrates also often indicate the presence of other contaminants, such as bacteria and pesticides.

In the Lower Valley, many fields are sprayed with both commercially produced fertilizer and manure from dairies. With 72 dairies, the Lower Valley has the state's highest concentrations of milk cows.

The EPA plans to convene a meeting next month in Zillah or Granger to examine ways to address the groundwater contamination.

EPA Regional Director Elin Miller in Seattle wrote in a Nov. 4 letter to the Herald-Republic that the agency is organizing an effort among the state departments of Health, Ecology and Agriculture, the federal Indian Health Service and the Agency for Toxic Substances and Disease Registry, a unit of the federal Centers for Disease Control.

"EPA is interested in applying the collective resources and tools of all the agencies that have a role in groundwater management in order to identify sources and assess the distribution of nitrates that can be addressed in the near term," Miller wrote.

Officials from the county and the Yakima Health District will also be invited. But the meeting will be closed to the public, environmental groups and the dairy industry.

The Dec. 4 meeting will include a tour of the Lower Valley to help participants understand the region's shallow-water aquifers and the various sources of nitrate contamination.

Marie Jennings, manager of the EPA's drinking water unit, said Thursday in a telephone interview that the newspaper's series -- "Hidden wells, dirty water" -- documented a lack of coordination among agencies with responsibility for drinking and groundwater.

"Because no one person is responsible, it's easier for people to say, 'Oh, that's not a drinking water issue,'" she said.

Jennings also said she was concerned to learn about the state Legislature's role in weakening regulations governing the dairy industry, a source of nitrates. Among other actions, the legislature shifted dairy inspections from the state Ecology Department to the Agriculture Department, whose role is to promote farming. It also allowed dairies to keep secret their plans for manure disposal by providing an exception to the state's Open Records Act.

In her letter, Miller said the agency is "expeditiously" considering whether to invoke a section of the federal Safe Drinking Water Act to allow immediate action, such as bringing in bottled water.

But Miller indicated the emergency authority is most often used to force a specific polluter from contaminating groundwater. With nitrates, that is difficult, she said.

"In the Yakima Valley situation, nitrate contamination is not confined to a small area, nor is it readily attributable to one, or even a limited number of activities," Miller said.

Many families in the Lower Valley have been driven to buy drinking water after finding their wells contained nitrates in excess of the federal limit of 10 milligrams per liter.

Spokespersons for the Ecology and Agriculture departments said their agencies would be participating in next month's meeting. The Department of Health said although it has no jurisdiction over private wells, it, too, would likely "be at the table."

* *Leah Beth Ward can be reached at 577-7626 or lward@yakimaherald.com.*

KRIS HOLLAND/Yakima Herald-Republic
In January, Norma Solano's well water was found to be contaminated with high levels of nitrates, an odorless compound found in water and soil. Now, the Solanos avoid water from their home's well in Outlook and buy bottled water for drinking and cooking.

Links
Read the series here

From the Yakima Herald-Republic Online News.

Posted on Saturday, October 11, 2008

The problem
Evidence of groundwater contamination in the Lower Valley has been ignored for years, leaving poor rural residents exposed to health risks and nowhere to turn
by LEAH BETH WARD
Yakima Herald-Republic

OUTLOOK -- Like many rural Lower Yakima Valley residents, Norma and Leonardo Solano used their well water for years with little thought.

But in January, Norma Solano saw a television report about contaminated well water at nearby Outlook Elementary School. The water had tested high in nitrates, an odorless compound found in water and soil that can pose health risks.

For days afterward, she tried to learn how widespread the problem might be.

"I called the school and they said the problem was just at the school," Solano recalls. "I left three messages at the health district and didn't hear back. Nobody came around with any information in either English or Spanish.

"Maybe they don't worry, but I do."

As news of the school's water problem spread, a company selling filtration systems came looking for customers. It tested the Solanos' well and found unacceptable levels of nitrates -- just like at the school. It then tried to sell the Solanos a $4,000 filtration system.

"We are poor people. We cannot afford that," says Solano, who works as many hours as she can get at Fiesta Foods in Sunnyside. Her husband is a farm worker and tends a few goats on the side.

The couple now spends $200 a month for bottled water, the equivalent of more than $1 of every $10 they earn, as they struggle to keep up with the mortgage on their 1910 wood-frame farmhouse.

Their situation isn't unique.

A little noticed scientific study six years ago found that one in five of 195 wells tested outside five Lower Valley communities contained levels of nitrates above federal safety limits.

The wells that were tested serve homes situated amid and around dairies, cornfields and orchards. The wells are usually shallow and old, and may be too close to aging septic systems that could be failing. In any case, the wells are not connected to municipal water supplies, which are regularly tested for contaminants.

In 1991, when contaminated shallow wells were found in a then-unincorporated area between Yakima and Union Gap, the state ordered an emergency bottled water distribution program for hundreds of homes. A large-scale education campaign also was undertaken warning residents about the potential danger of using shallow drinking wells.

No such actions have been suggested in the Lower Valley, leaving people like the Solanos not knowing where to turn.

Responsibility for keeping groundwater and drinking water clean is divided among at least five different state and federal agencies, which often have conflicting missions. Coordination is poor. Adequate money is in short supply. And legal loopholes can make it difficult to enforce clean-water laws.

Despite the evidence of contamination, including bacteria found in the feces of warm-blooded animals, there's been no attempt at a widespread testing program for private wells in the Lower Valley. The presence of nitrates raises the likelihood that other contaminants could also be reaching well water.

But no government agency tracks or reports health problems that could be caused by contaminated wells.

Nitrates and the bacteria they are often found with are part of rural life. They come from the manure of dairy cows and beef cattle, horses, wildlife, human feces and the application of commercial fertilizer to crops.

But a Yakima Herald-Republic investigation of public records found that broader efforts to scientifically identify and monitor groundwater pollution have been thwarted by the dairy and livestock industries -- which in Yakima County account for an estimated 115,000 dairy cows and beef cattle living in concentrations as great as 8,000 per farm.

It's a problem other communities have grappled with. Ten years ago in neighboring Grant County, residents, local elected officials, farmers, feedlot operators and dairies recognized that nitrates had seriously contaminated groundwater. Since then, there's been an ongoing effort to reduce the problem.

But in Yakima County, such dialogue is rare. Indeed, it's nonexistent.

A group of activists opposed to big dairies decided many years ago that the hammerhead of litigation -- threatened and real -- is the only way to force change. They've refused to participate in government rule-making surrounding manure management.

Dairy producers, proud and private, prefer to speak through their lawyers and lobbyists. They say they are family farmers under siege for a way of life that contributes substantially to the local economy.

Although dairies have had and continue to have demonstrated environmental problems, the

most important details of their operations are kept secret from the public, leaving people like Solano to trust the same government they can't get any help from.

Both dairies and their adversaries continue to ring up thousands of dollar in legal fees to defend their positions.

Meanwhile, at the cost of $48,000 in taxpayer dollars, the Outlook school was able to drill a deeper well into cleaner water.

That's not an option for people like the Solanos and their neighbors in the Lower Valley, where nearly half the residents live below the federal poverty level.

Today, Monday and Tuesday, the Yakima Herald-Republic will look at groundwater contamination, how it affects everyday life, why the problems have been overlooked and what can be done about it.

KRIS HOLLAND/Yakima Herald-Republic
Norma Solano washes dishes in her Outlook home Saturday, September 27, 2008. In January, Solano's well water was found to be contaminated with high levels of nitrates, an odorless compound found in water and soil.

Links

Learn more -- Hidden wells, dirty water
Watch -- 'Hidden wells, dirty water'
Interactive contaminated wells map

From the Yakima Herald-Republic Online News.

Posted on Saturday, October 11, 2008

Part 1: Why there's no systematic testing
by Leah Ward
Yakima Herald-Republic

With hundreds of square miles of irrigated farmland, the Lower Yakima Valley yields a bounty of fruit, hops, corn, hay and other crops.

Tourists come to taste the wine and enjoy orchard-dotted vistas that have been compared to the Napa Valley, even Tuscany.

Less visible is what's happening to the water below the ground, which more than 30,000 mostly poor, Latino residents depend on for drinking water. Most of that water is tapped from untested wells, including many older wells, dug before permits were required and records kept.

A little noticed 2002 study provided a disturbing clue: One out of every five wells tested around Sunnyside, Granger, Grandview, Mabton and Outlook had nitrate levels above what the federal government considers safe.

Nitrates, a potential health hazard (see sidebar), can come from human waste and crop fertilizer. Manure from cows is also a major source in the Lower Valley, where there are roughly one and a half cows for every resident.

Manure from the region's 72 dairies -- which make up the highest concentration of milk producers in the state -- is stored in large lagoons and sprayed as slurry on fields of corn and other crops grown to feed cows. If all goes according to plan, the crops absorb the nitrates as a nutrient.

But if the crops can't use all the nitrates, they remain in the soil and leach down toward aquifers tapped for drinking water.

No one has conclusively linked dairy manure to groundwater pollution. But clearly, the quality of groundwater has been compromised.

"The bottom line is that there is a widespread groundwater quality problem in the Lower Valley," hydrogeologist Bob Raforth wrote in a memo to his supervisors at the state Department of Ecology in 2006.

Raforth's memo cited a 2002 study conducted by the Valley Institute for Research and Education of Yakima. The study, paid for with settlement funds from a lawsuit against dairies accused of clean-water violations, has withstood scientific review.

Despite the alarming results, the study drew scant attention from environmental or health agencies and was essentially shelved, said Ron Sell, a retired U.S. Department of Agriculture chemist who led the research.

"No agency knows what to do with data that isn't theirs," Sell explained. "It tends to be an orphan."

Groundwater quality, too, is something of an orphan. Local, state and federal agencies each have a different piece of the regulatory pie and, as a result, often don't communicate or cooperate with one another. What's more, no law requires any agency to test private well water for quality.

Demographics and cultural barriers also hide the groundwater problem. Poverty is high -- about half the Lower Valley's residents fall below the federal poverty level. Most residents on well water are Latino farm workers who can't afford to test or aren't aware they might have a problem.

Blanca Balzadua, an outreach worker who recruited participants for the Valley Institute's study, said people were afraid they would lose their water if they allowed it to be sampled.

"There was a lot of fear. They'd rather not know if there's a problem," Balzadua said. "It takes a lot of educating."

The Valley Institute's study intentionally sampled the water of these residents because they aren't likely to do it themselves.

With barriers to testing already high, tracing the source of the contamination in the Lower Valley becomes especially fraught with political and financial hurdles.

So far, the state's dairy and livestock industries have fought aggressive testing programs that might help determine whether nitrates from cattle manure are contaminating groundwater. But no one, not even dairy producers, denies that manure is a source of nitrate pollution.

"We're part of the problem," said Jay Gordon, executive director of the Washington State Dairy Federation, the industry's trade association. "Our goal is not to be any part of it."

Few dispute that most dairies have made substantial investments since the 1990s to modernize their manure-management systems and minimize the chance for surface and groundwater pollution.

"We've taken a different tack since the early '90s," Gordon said. "We believe the best win is a win that protects the environment."

That doesn't mean the industry has given up the fight. Far from it. Gordon has been a tireless and effective lobbyist on behalf of his clients' interests as worries over animal waste grow both here and elsewhere in the country.

Records obtained by the Yakima Herald-Republic show the industry has gained the upper

hand in legislative and regulatory battles over how manure-management rules are enforced and whether groundwater quality is suffering as a result.

In the past five years:

* The 2003 Legislature weakened enforcement of existing manure-management regulations by transferring authority to inspect from the Department of Ecology to the Department of Agriculture, an agency whose mission and political culture is to promote farming.

* With consent from environmentalists and open-records advocates, the Legislature has exempted certain records of dairy and livestock manure-management plans from the state Public Records Act. The public can't see the detailed plans for how a dairy handles its manure and instead must trust regulators that the plans are being followed. But those same regulatory agencies say the plans may not be effective.

* After the industry objected, the Ecology Department backed away in 2004 from requiring groundwater monitoring of large-scale dairies and feedlots.

* The Legislature has split manure-management duties between Ecology and Agriculture, a policy that the state's water-quality officials now conclude has failed the public.

The Lower Yakima Valley's persistent groundwater-quality problem -- whatever the source -- has come to exasperate Ecology Department Director Jay Manning.

"I feel strongly that it is time to do something about this," Manning said in a recent interview. "I'm not satisfied with my agency's performance or anyone's."

How it happened

Ten years ago, after several high-profile examples of manure being illegally dumped into drains, creeks and streams -- here and elsewhere in the state -- the Legislature responded by giving the Ecology Department new powers. For the first time, dairies would be inspected every 22 months to ensure state and federal water quality laws were being followed.

The agency was awarded $400,000 to hire additional inspectors and track information on dairies, such as herd size, acreage and manure-storage facilities.

Although the Ecology Department wasn't their favorite agency, dairies agreed the Agriculture Department's inherent mission to promote their industry could make any of its actions suspect.

"There was a belief in the dairy industry that Ecology would be more credible and we wanted to avoid the 'fox-guarding-the-henhouse' scenario," said Gordon of the state Dairy Federation.

Ecology got the program up and running six months ahead of schedule, conducting 2,313 inspections and issuing 34 penalties for violations over four years.

But the rigorous enforcement was too much for the dairy industry, which successfully pushed in 2003 to move enforcement to the Agriculture Department.

At a 2006 Agriculture Department meeting, Gordon charged that some Ecology inspectors overstepped their authority and used "scare tactics" that he blamed for causing heart attacks or the hospitalization of four dairymen on the west side of the state. Gordon said one man in his 80s was told he couldn't put manure on an old lake bed that had been farmed since 1882.

"I was not going to sit back and let that happen," Gordon said in a recent interview.

He said inspectors, instead of examining manure management, were "looking in all the closets," such as how motor oil was being disposed of or why there were bird droppings on the grounds.

The situation grew so tense that dairy producers threatened to block inspectors from their property.

It's not that dairy producers didn't want any enforcement, Gordon said. After all, if one dairy is out of compliance, others gain a competitive edge. But dairies wanted "educated inspectors who understood farming as well as water quality," he said.

Meanwhile, a budget crunch had all state agencies looking for cuts. The Ecology Department proposed eliminating the dairy program. Gordon, meanwhile, went to lawmakers with his plan to shift inspections to the Agriculture Department.

In the House, the plan found a sponsor in Rep. Kelli Linville, D-Bellingham, then chairwoman of the Agriculture Committee. Her district includes many dairies.

In the Senate, prime sponsors were Sens. Marilyn Rasmussen, D-Eatonville, and Dan Swecker, R-Rochester.

Rasmussen, a livestock owner and farmer, said the motivation was cost savings. Because Agriculture had long licensed milk producers and processors to ensure the safety of dairy products, the Legislature agreed the shift could save money, she said.

Swecker said recently he believed the Agriculture Department, with its history of "collaborating" with dairies, would do a better job of giving them technical assistance to bring them into compliance.

"We aren't in favor of pollution, but how do you get there? We really felt Ag had a good system going," Swecker said.

The legislation raised few eyebrows. No one in the all-Republican Yakima Valley delegation objected. And Rasmussen and Linville were powerful Democrats who could sell it to their caucuses.

Environmental lobbyists, who are often Puget Sound-centric in their focus, didn't object. But the legislation did make Washington different than most other states where responsibility for

manure regulations is handled by water-quality environmental or natural-resources departments.

Tom Fitzsimmons, then the director of the Ecology Department and now chief operating officer of a Seattle real estate development company, argued against the switch, telling legislators that his department was moving from policing dairies to helping them comply with the law.

Fitzsimmons said in a recent interview that he felt it was important to keep enforcement in Ecology where all the rest of the state's water-quality programs are housed.

"My concern was that transference would turn the clock back, but the Legislature made the call," Fitzsimmons said.

As part of that call, the number of inspectors to enforce dairy manure regulations statewide was cut by about half -- from eight in 1999 to three and a half now -- even as the number of milking cows has remained relatively unchanged.

As a result, while Ecology averaged about 575 inspections a year, Agriculture can only do about half that number.

Meanwhile, the number of complaints about discharges of manure went up in 2007, leading to 11 enforcement actions for violations of clean-water laws, up from three in 2006.

A comparison of Agriculture's number of inspections and enforcement actions to Ecology's isn't possible. Nora Mena, director of the Livestock Nutrient Management Program at Agriculture, said inspectors from the two agencies used different categories in their reports. As a result, their procedures weren't standardized across the two agencies.

One of the Agriculture Department's toughest critics is Charlie Tebbutt, a lawyer with the Western Environmental Law Center in Eugene, Ore. The center sued dairies under the Clean Water Act in the 1990s and is now suing another Lower Valley dairy for alleged violations of the federal Clean Air Act.

"Ag shouldn't have anything to do with regulating dairies. It's a fundamental conflict of interest," Tebbutt said.

Robert Gore, director of the Agriculture Department in Olympia, said in a recent interview that his agency can both promote the dairy industry and protect the public's interest in clean water.

"We can do both. I think the ag industry are very responsive stewards of the environment," Gore said.

Secret records

Compliance with manure-management regulations is based largely on records kept by dairies.

Records include results of soil sampling to determine whether manure is being overapplied, and how much manure is produced and stored in lagoons on the property.

The records are kept as part of the dairies' Nutrient Management Plan, which is required by law. Agriculture officials say 98 percent of the dairies inspected last year were in compliance with their plans.

But while inspectors can review the complete plans and supporting records, the public cannot.

Under pressure from dairy lobbyists, the Legislature exempted the information from public-records laws, leaving rural residents on well water to trust the government that their groundwater isn't being threatened.

Dairy producers say they need confidentiality because they compete with each other to find land to grow corn for silage, a fermented feed.

Knowing exactly how many cows, the amount of manure produced and how much land someone has can be used to gain a price advantage on a land deal, dairies say.

"The competition for dirt in the Yakima Valley is intense," said Gordon. "We didn't want that to be used against us."

Similar waste-management plans are open to the public in Oregon and the nation's top four dairy producing states, California, Wisconsin, New York and Pennsylvania. In Idaho, the fifth-largest producer, the plans are not public.

Members of the Community Association for Restoration of the Environment, or CARE, a dairy watchdog group in the Lower Valley, used the state Open Records Law to get a copy of the 2000 nutrient management plan for the DeRuyter Brothers Dairy in Outlook. But it was so heavily redacted -- parts were blacked out with ink -- that experts who reviewed it subsequently said they were unable to determine if the plan was sufficient.

For example, schedules of how often and how much manure is applied to a field are blackened, as are the sizes of the lagoons, how much manure is produced and the land available to absorb the manure.

Bruce Bell, an environmental engineer who works as a consultant in Monroe, N.Y., testified in a hearing last year that without the details, there's no way for an independent third party to tell if the plan is being followed.

Bell, who was a paid expert witness for CARE in an ongoing legal battle over a proposed new large-scale livestock operation, said most violations stem from dairies that have a "best practices" plan but don't follow it.

"The best plans are just that, they're plans. We all hope they work, we all hope they're implemented properly, but we don't know. The state of the art is simply not that good."

Others say dairies -- which require a reliable source of clean water to operate -- risk too much not to have a workable plan.

"I wouldn't be concerned about modern dairy practices," said Robert Stevens, a soil scientist at Washington State University in Prosser. "It's the rare occasion now when we see a problem with a facility."

But Ecology Department officials have concluded that plans and permits don't guarantee that lagoons won't leak, that fertilizer and manure won't be overapplied or that irrigation runoff won't soak the deepest layers of soil in nitrate-rich water.

"A facility may not be violating the permit or their nutrient management plan but may still be polluting groundwater," the agency concluded in a 2004 internal document.

Editor's note: This story was appended to correct erroneous information that appeared in the originally published version.

Links

Learn more -- Hidden wells, dirty water

From the Yakima Herald-Republic Online News.

Posted on Saturday, October 11, 2008

What are nitrates?

Yakima Herald-Republic

What are nitrates?

A form of nitrogen and oxygen used by plants. Nitrates travel freely through water and can stay in soil for decades.

Where do nitrates come from?

A variety of sources. Since at least the 1940s, farmers have applied commercial fertilizer containing nitrogen to crops.

Human waste can be a source, too, the result of failing septic systems, which was a problem in the Lower Valley's Parker area until a public water system was constructed.

Poorly constructed or old, shallow wells -- there are many in the Lower Valley -- are also conduits for nitrate pollution.

In the Lower Valley, manure is also a major source of nitrates. A single dairy cow produces nearly 150 pounds of wet manure a day.

Wildlife manure and municipal and industrial wastewater can be sources. Geologic formations and the direction that water flows underground can also influence nitrate concentration.

How do nitrates reach underground drinking water?

Nitrate-rich manure overapplied as liquid waste on crops can leach into aquifers. Nitrates move readily with water through subsurface soils.

Lagoons used to store liquid manure may overflow or develop holes on the sides or bottoms, creating an opportunity for nitrates to enter the soil or run into ditches that drain into rivers and streams.

Commercial fertilizer applied to crops for decades can also leach into aquifers.

Why are nitrates considered a problem?

Drinking water high in nitrates and other contaminants poses risks to infants, pregnant women, the elderly and people with compromised immune systems. In infants, high nitrates can cause methemoglobinemia, or blue baby syndrome. Research isn't conclusive, but pregnant women are believed to be at greater risk for having babies with birth defects as a result of drinking water high in nitrates.

The conditions of people with heart or lung diseases, certain inherited enzyme defects, or cancer may be worsened by ingesting too many nitrates.

In addition, some experts believe that long-term ingestion of water high in nitrates may increase the risk of certain types of cancer.

No agency systematically keeps track of the rate of such medical problems.

Many scientists consider nitrates a warning of overall water problems. If nitrates are high, well water may also contain bacteria like E.coli, which can cause infections, and other contaminants, including pesticides, viruses and pathogens.

For more information on health effects, check the state Department of Health's Web page on nitrates at www.doh.wa.gov/ehp/dw/Programs/nitrate.htm.

What is considered a safe level?

The U.S. Environmental Protection Agency uses 10 milligrams per liter (the equivalent of 10 parts per million) as the maximum level for safety. Nitrate levels in well water tested six years ago around Granger, Sunnyside, Outlook, Mabton and Grandview ranged from a high of 55 milligrams per liter to a low of 0.07. Forty of the 195 wells tested, or 21 percent, exceeded the federal limit. EPA considers 5 milligrams a "red flag," indicating the need for more frequent testing.

Is nitrate pollution a new problem?

No. Because nitrates are stable, they can stay in the water and soil for decades. The nitrates found in many Lower Valley wells could be very old, referred to as a "legacy problem" by regulators. This is part of the reason that it's so difficult to pinpoint the source of nitrate pollution.

How can I get my well tested?

There are several certified laboratories around the Yakima Valley listed under "laboratories-

analytical" in the Yellow Pages that will test your water for about $42. But you need to know how to collect a sample properly; the companies will provide the instructions and a sanitized bottle.

What should I do if my water exceeds the limit?

Do not boil the water. This only increases the concentration of nitrates.

Have the well's casing examined for holes. Make sure your septic system is working properly.

Unfortunately, solutions can be expensive, such as drilling a deeper well or buying a reverse-osmosis water system that filters out nitrates, but not bacteria.

These systems range in cost from $300 to $3,000, not including replacement parts and filters. A disadvantage: They use a lot of water because they only recover up to 15 percent of the water entering the system. The rest is discharged as waste.

Links

Learn more -- Hidden wells, dirty water

From the Yakima Herald-Republic Online News.

Posted on Saturday, October 11, 2008

About the Lower Valley

Yakima Herald-Republic

Size: 640 square miles.

Population: 81,130, including about 38,000 outside incorporated cities and towns. Most of those 38,000 don't have access to regularly tested municipal water supplies and must rely on private wells. Roughly half the population lives in poverty, with the majority identifying itself as Latino.

Number of dairies: 72, stretching from Zillah to Grandview.

Number of dairy cows: 74,000.

Economic importance of dairies: The U.S. Department of Agriculture estimates the value of the Yakima Valley's milk production at $296 million — about half of the state's total.

Estimated number of private wells: Unknown.

From the Yakima Herald-Republic Online News.

Posted on Saturday, October 11, 2008

Part 2: Where's the accountability?
by Leah Beth Ward
Yakima Herald-Republic

SUNNYSIDE -- After several years of bouts with diarrhea, headaches and general listlessness, Marci Ogden began to think the problem might be her well water.

When a sample from her well in 2005 revealed bovine bacteria, her suspicions turned to a settling pond built several years earlier to collect runoff from a nearby cornfield, which was sprayed with liquid manure.

In trying to solve the problem, Ogden embarked on what would become an 18-month odyssey that gave her first-hand experience in government bureaucracy and demonstrated how those responsible for keeping groundwater clean can fail. Public records show that multiple government agencies couldn't -- or wouldn't -- help.

"Nobody took responsibility. I was passed around and passed around," Ogden said.

Ogden, 51, a single mother with a passion for horses and country living, eventually found out her water also tested high for nitrates.

Unlike many other rural Lower Valley residents, Ogden was fortunate in several regards: She knew how to complain long and loudly to government officials, and she had the resources to drill a deeper well at her home. Ogden, a part-time waitress and bookkeeper, and her teenage daughter were able to move to Ellensburg. Their single-story home on five acres just north of Sunnyside is rented out and up for sale.

Such options aren't available to many others in a region beset with the challenges of poverty, language barriers and limited education.

Ogden's efforts did not go unnoticed.

She had fallen into an "awful bureaucratic crack," Bob Raforth, the regional hydrogeologist for the Department of Ecology based in Yakima, wrote in an urgent 2006 memo to his superiors.

Raforth added that her contaminated water was the tip of the iceberg.

"Ms. Ogden's problem is not an isolated occurrence. I think it is important that we keep that in perspective. Addressing her problem in isolation will do nothing for the rest of the wells that have been demonstrated to be contaminated in the Lower Valley."

Nothing has been done by the Ecology Department or any other agency since Raforth wrote the memo nearly three years ago.

Ogden's attempts to get someone to investigate the source of her well pollution began with the Ecology Department on Aug. 25, 2005.

Ecology officials sent her to the state Department of Agriculture because that agency regulates how dairies manage manure. Agriculture's lead inspector, Virginia Prest, investigated the site the next day. She noted that the well was old and had a small hole in the cap, although there was a roof over the wellhead.

But Prest eventually concluded that Ogden's problem was outside the agency's jurisdiction because the source of the contamination couldn't be established.

Even if the source was manure from the settling pond 35 feet from her well, the agency has no enforcement powers beyond the doors of the dairy.

"If a dairy gives manure to a crop farmer, once it leaves the control of the dairyman, it's no longer their responsibility and it's out of our jurisdiction," said Nora Mena, manager of the Livestock Nutrient Management Program at the Agriculture Department.

Prest subsequently asked the Yakima Health District to handle the complaint, but was told it has no jurisdiction over private wells -- only community water systems. Neither does the state Department of Health.

"I didn't know that," Prest recalled in a recent interview.

High-level Ecology Department officials were also unaware that neither local nor state public health officials are required to test small private drinking wells.

They soon found out.

Ogden began calling the Ecology Department again. In December 2005, four months after her initial complaint, her story caught the attention of Tom Tebb, section manager of the water quality program in Yakima. He sent a memo up the agency's chain of command to Jay Manning, the director in Olympia.

"She doesn't feel that it is right that she has to drink contaminated water from her well as a result of a neighbor involved in the dairy or feedlot industry," Tebb wrote. "I tend to agree with her."

Tebb went on to list eight questions the agency should think about, including these two:

* Why is it that we have no direct course of action (between agencies) to resolve this issue for the affected public?

* How can we successfully resolve this issue so that some other person doesn't have to work so hard to get something done about all of this?

The same month, the Ecology Department collected samples from Ogden's well and six others nearby in what was called a "one-time expedited effort to determine whether there was a groundwater contamination with fecal coliform."

Fecal coliform is not the same thing as total coliform, a general test that requires follow-up to find out if the most virulent forms of the bacteria are present.

Ecology's samples showed no evidence of fecal coliform. But that doesn't contradict an earlier finding by Heritage University and the University of Washington School of Public Health that the genes of the bacteria were bovine.

Ogden's water also had nitrate levels of 23 milligrams per liter, more than double the federal limit of 10 milligrams per liter. Three nearby mobile homes also tested high for nitrates.

Ogden remains frustrated that no one ever found the source of her well contamination, which she has taken to mean that others may pollute groundwater with impunity.

"There's no accountability," she said.

But one way to determine the cause of groundwater contamination in the Lower Yakima Valley would be to monitor underground water with test wells.

Such wells could determine whether contamination was from faulty septic systems, manure from leaking lagoons, excessive application of manure to crops, or the use of commercial fertilizer.

In 2004, Ecology Department officials proposed monitoring groundwater as part of a new federally required permit for Concentrated Animal Feeding Operations, or CAFOs, which are livestock operations with more than 700 animals fed in a confined space, not on pasture.

Studies have shown that CAFOs have affected groundwater quality in Washington, the agency noted at the time.

The agency concluded that if monitoring detected contamination, dairies would be required to change their operations to protect groundwater, which is the only available water supply for many rural residents.

But the groundwater monitoring idea was dropped after Agriculture Department officials told their counterparts at Ecology that the industry objected.

Higher-level Ecology officials came around to that point of view, testifying at a hearing last year that the industry didn't want groundwater monitoring.

For example, David Secrist of Moses Lake-based El Oro Cattle -- a sister company to AB Foods Washington Beef Plant in Toppenish -- e-mailed the Agriculture Department saying the industry would be willing to adopt more "best management practices," which he didn't specify, "but no groundwater monitoring."

The industry would have had to pay for groundwater monitoring wells, and persuaded the Ecology Department it would be too onerous. Shallow wells run in the neighborhood of $2,000 each, while deeper ones can reach $10,000.

While the industry was well represented on the "stakeholder committee" that advised the state on the CAFO permit, participation by state environmental groups was, at best, limited. Community activists didn't participate at all.

Helen Reddout, president of CARE (Community Association for Restoration of the Environment) of Granger, said she was invited on the condition that the process end in consensus. But that was unacceptable, said Reddout, who has long battled dairies over manure management.

"We weren't going to be able to say if we disagreed, so there was no point, in our opinion. It was going to be censored anyway," Reddout said.

She added that Seattle-based environmental organizations, like the Washington Environmental Council don't offer any assistance to rural residents living near dairies.

"We've asked them for help, but by and large they have ignored us," Reddout said.

Michael Mayer, legal director of the Washington Environmental Council, said his group was never contacted by CARE, but he also said the council's focus is on the quantity, not the quality, of water.

"The work we do surrounds water quantity issues that facilitate sprawl," Mayer said.

In any case, soil testing -- rather than monitoring groundwater -- will be used under the CAFO permits to track pollution from dairies and feedlots. Dairies already are supposed to test their soil, so there will be no additional cost when the permit eventually takes effect. The U.S. Environmental Protection Agency is still working on final regulations, which will then be adopted by the states.

Experts debate the effectiveness of soil versus groundwater monitoring. Robert Stevens, a soil scientist at Washington State University's research center in Prosser, said soil testing is valuable because it can show whether there is too much nitrate before it enters the groundwater.

"Soil testing is a more practical way to predict problems because by the time the problem gets into the groundwater, there's nothing you can do about it," Stevens said.

But Thomas Harter, a groundwater hydrologist with the University of California, Davis, said soil sampling is limited.

"I'm a little biased against soil sampling because they're looking at what nutrients are available to the plant, not the amount that's gone down below the root zone into the groundwater," he said.

Harter said even if a soil sample shows normal nitrate levels, it doesn't mean it hasn't penetrated into the aquifer. But he acknowledges the cost limitations of wide-scale groundwater monitoring, which is done in California only at dairies with a history of problems.

The Ogden case prompted a brief inter-agency effort to find a way to address the Lower Valley's groundwater problem.

Mena, the nutrient program manager at the Agriculture Department, wanted to lead that joint effort with the Ecology Department and local and state health officials. In a January 2006 memo to then-Agriculture Director Valoria Loveland, Mena asked for time for the special assignment.

She anticipated Loveland's resistance.

"I realize that this issue is groundwater which is/will remain Ecology's responsibility to address. Agriculture, including dairies, is undoubtedly part of the problem so I don't want to oversimplify the potential effects of any actions that may come out of this," Mena wrote.

"I hope you agree with me that (the Agriculture Department) should take the lead in bringing the parties together."

Loveland turned Mena down.

"As I recall, she agreed we should stay involved but since we didn't have any authority over all the pieces it should be Ecology to take the lead," Mena said.

Loveland, who is now retired, did not respond to inquiries from the Yakima Herald-Republic.

Splitting responsibility for groundwater regulations between the two departments is a problem, according to Ecology Department director Manning.

"Both agencies sort of assume the other is going to take care of things and they don't," Manning said in an interview.

"We clearly need to finish this job or move it all back to one agency. I don't care who has it but I'm frustrated by this middle position. We've stalled out."

At one time, there was a vehicle for at least a discussion in the state Interagency Groundwater Committee, which included all agencies with a role in groundwater, led by the Ecology Department. But it has since become inactive.

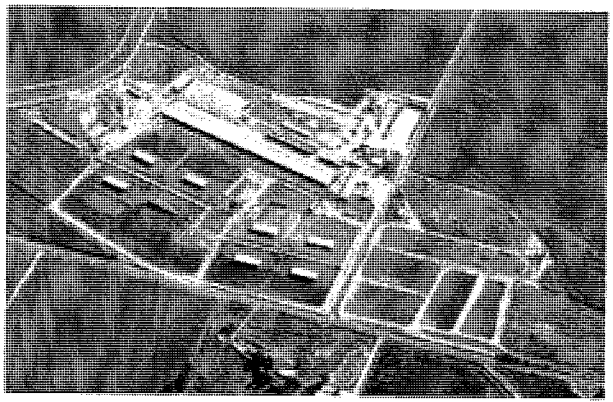
Ogden, meanwhile, said she and her daughter have regained their active lives, riding horses

and camping around their new home in Ellensburg. She said she could never again live in the house in Sunnyside even though she loved the property.

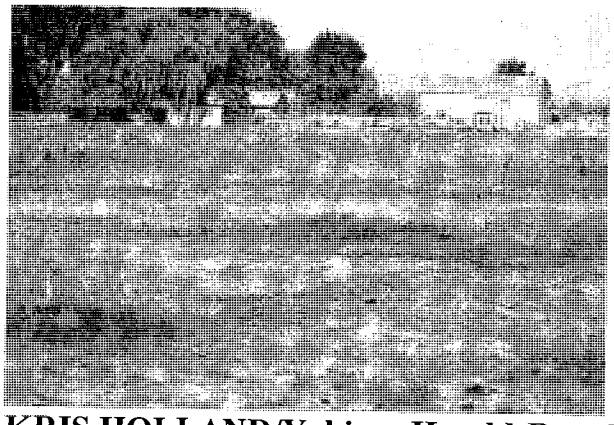
"Just the memory of drinking all those cups of coffee and tea and glasses of water over the years without knowing it contained bovine bacteria. I just couldn't do it."

KRIS HOLLAND/Yakima Herald-Republic
Dairy cows feed at a Lower Valley dairy Saturday, September 27, 2008. Manure from cows is linked to contaminated wells in Sunnyside, Outlook, Mabton, Granger and Grandview.

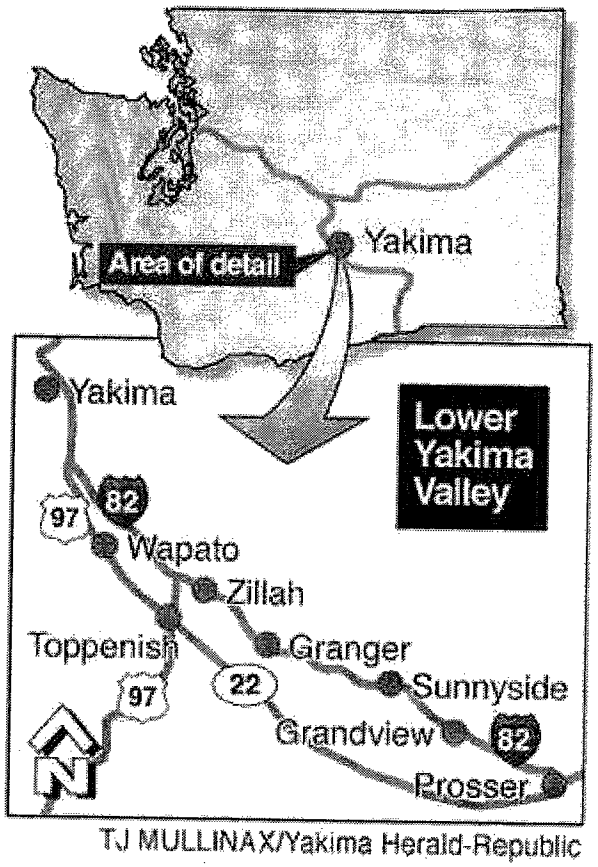
KRIS HOLLAND/Yakima Herald-Republic
Marci Ogdon's home well on Cemetery Road in Sunnyside was found to contain high levels of nitrates.



KRIS HOLLAND/Yakima Herald-Republic
Dairies, like this one in Outlook, store manure in lagoons which then is sprayed as slurry on crops to feed cows Thursday, September 11, 2008.



KRIS HOLLAND/Yakima Herald-Republic
Marci Ogdon's home well on Cemetery Road in Sunnyside was found to contain high levels of nitrates.



TJ MULLINAX/Yakima Herald-Republic

TJ Mullinax
Lower Valley map

Links

Learn more -- Hidden wells, dirty water
Watch -- 'Hidden wells, dirty water'
Interactive contaminated wells map

From the Yakima Herald-Republic Online News.

Posted on Saturday, October 11, 2008

Defining a CAFO
by Leah Beth Ward
Yakima Herald-Republic

What, exactly, is a CAFO?

It's hard to say. The definition keeps changing.

For five years, the federal government, farm groups and environmentalists have sparred over how to protect the public from pollution by large-scale livestock operations known as Concentrated Animal Feeding Operations, or CAFOs.

CAFOs, generally defined as farms with 700 or more head of livestock confined for more than 45 days, have come increasingly under scrutiny by public health officials as a source of chronic diseases for those who live nearby, ranging from asthma to heart disease.

Because of their size and importance as a source of local jobs, CAFOs have changed rural economies, which are also challenged by poverty and poor health, according to an independent national commission of medical doctors, public health professionals, ranchers, veterinarians, and animal science and infectious disease experts.

"Those most vulnerable -- children, the elderly and individuals with chronic or acute pulmonary or heart disorders -- are at particular risk," concluded the Pew Commission on Industrial Farm Animal Production.

Despite those risks, efforts at drafting regulations have been slow and difficult.

In 2003, the U.S. Environmental Protection Agency issued draft rules for a pollution permit to be required of all CAFOs.

The final regulations could be ready in mid-November. But in the intervening five years, the industry has prevailed over much of the state and federal rule making surrounding the permits.

Even the definition of a CAFO has changed.

Thanks to a federal court decision favoring the livestock industry, the number of Washington dairies and feedlots considered CAFOs has declined from 110 in 2005 to 31 in 2007.

The U.S. Court of Appeals Second Circuit said CAFO operators can't be required to get a discharge permit if there's only a potential for pollution. Put another way, a dairy that stores manure in lagoons and sprays it on crops is not considered to be discharging.

Meanwhile, the CAFO permit developed by the state Department of Ecology has been

appealed by environmentalists to the state Court of Appeals.

Environmentalists argue the permit won't protect the waters of the state while Ecology and the livestock industry argue it will. Oral arguments are set for sometime this fall.

From the Yakima Herald-Republic Online News.

Posted on Saturday, October 11, 2008

Recent complaints about manure spraying

Yakima Herald-Republic

The state Department of Agriculture's most recent annual report said that overapplication of liquid manure to crop fields and poor record keeping continue to be a problem at many of the state's dairies. Overapplication is a possible source of nitrate contamination in groundwater.

Complaints about dairies are growing statewide. In 2007, the department responded to 45 complaints compared to 28 in 2006. Of the 45 complaints last year, 17 raised valid water-quality issues and resulted in six warning letters and 11 formal enforcement actions.

Here are the most recent Yakima County dairy problems as reported by the Agriculture Department.

Oord Dairy, Sunnyside

Owner/operator: Henry Oord.

Notice of violation issued April 2007.

Problem: A third-party manure hauler spilled 5,000 gallons of liquid manure on 100 acres, causing leakage through a drain into a canal belonging to the Sunnyside Valley Irrigation District.

Action taken: The dairy agreed to remove manholes in the field, eliminating the potential for drainage into the canal.

A & C Sytsma Dairy, Sunnyside

Owner/operator: Andy Sytsma.

Warning issued May 2008.

Problem: Cropland has elevated levels of nitrogen and phosphorus.

Inspector comments: The overapplication of manure is not acceptable. More of the manure needs to be taken off the farm to protect soil and groundwater.

Also: The Sytsmas lease their dairy land and want to build a new, 7,000-cow dairy on land they purchased on the Yakama reservation. Tribal leaders have banned new dairies, feedlots and expansions of existing operations.

Snipes Mountain Dairy, Outlook

Owner/operator: Henry Haak.

Notice of violation issued December 2005: Heavy application of manure to fields around lagoons, failure to report a discharge of manure into water returning to the Yakima River in 24 hours as required.

Follow-up letter of warning issued June 2007: Inspectors found evidence of (manure) overflowing at the southwest corner of a lagoon and a failure to update plans for handling manure. Threatened penalties of $10,000.

Result: By September 2008, Snipes Mountain had resolved most of its problems. "Great things are being accomplished," wrote Agriculture Department inspector Eric Bair.

Riverview Dairy, Mabton

Owner/operator: John Banks Jr.

Warning issued August 2007: Applying manure to ground that was not being farmed.

Inspector comment: "Further misapplications of manure to non cropland as required in your Livestock Nutrient Management Plan will result in more serious enforcement action."

Harrison Road Dairy, Sunnyside

Owner/operators: Frank Leyendekker, Josh VanDerVegt.

Warning issued January 2008: No approved or certified Livestock Nutrient Management Plan.

Inspector comment: "Upon review of the soil samples and manure application records, it was determined that manure has been overapplied to your fields."

View Point Dairy, Sunnyside

Owner/operator: Bill DeRuyter.

Warning letter issued January 2008: Inadequate record keeping, required annual manure tests not being conducted. Soils samples show elevated phosphorous levels on all fields.

From the Yakima Herald-Republic Online News.

Posted on Saturday, October 11, 2008

But progress here has been virtually nonexistent
by Leah Beth Ward
Yakima Herald-Republic

Melodie Selby was excited.

A veteran water-quality engineer at the state Department of Ecology, Selby and others had been trying for years to get Yakima County commissioners interested in tackling groundwater contamination in the Lower Yakima Valley.

Then in June, Selby took a phone call from Commissioner Ron Gamache, who indicated an interest in working with the department on a local, grass-roots approach to the problem.

"Boy, it's the first sign of local government willing to do anything about this in a long time that I've seen," Selby said in a voice mail to a colleague in the Yakima office. (The voice mail was forwarded to the Yakima Herald-Republic in what Ecology officials explain as a technological fluke.)

Selby continued: "He did say, 'It's an election year so we probably don't want to be getting too drastic.'"

End of story.

Gamache, a two-term Republican, was soundly defeated in the August primary by Toppenish grower Kevin Bouchey, also a Republican, who enjoyed substantial financial support from dairy producers.

Gamache's willingness to consider a county-initiated Groundwater Management Area wasn't widely publicized, and now that he will be out of office in December, its fate is uncertain.

Gamache said recently that he still wants to start a dialogue among dairies, neighbors, farmers and regulators that would focus on health and water quality, not on the sources of the contamination.

"I'm not talking about going after the dairies," Gamache said. "Without them our economy would be a disaster."

But Gamache said he's aware of gaps in the regulation of dairies that he said need to be addressed.

Commissioner Mike Leita said in a recent interview that he wasn't aware that Gamache had spoken with the Ecology Department, and he wasn't happy about it.

"It would be nice if Commissioner Gamache would have shared that with the other commissioners," Leita said. "If there's something Ecology wants to engage Yakima County on, well, the three commissioners have to be on same wavelength."

Leita said he has already directed the county public works department to find a way to bring all parties with an interest in groundwater together in a "work group" that would be professionally facilitated.

Commissioners would oversee the work group but not be involved on a daily basis.

"We've got to find a way to get people to cooperate and see the wisdom in coming together and discussing their issues openly," Leita said.

Links

For more -- Special Section -- Hidden wells, dirty water
Contaminated wells interactive map

From the Yakima Herald-Republic Online News.

Posted on Monday, October 13, 2008

Part 3: Others work together
A rare cooperative effort resulted in a Groundwater Management Area for Grant, Adams, Franklin and Lincoln counties -- and programs to reduce nitrate leaching
by Leah Beth Ward
Yakima Herald-Republic

OTHELLO -- It took dairyman Dwain Forester a year before deciding to join an unusual cooperative effort to combat nitrate contamination across the Mid-Columbia Basin.

"I did not follow easily," said Forester, a plain-spoken bear of a man who runs a medium-sized dairy of 500 cows and grows corn on the low hills near Royal City.

But Forester, who sits on the Washington State Dairy Federation board, was worried by what he saw in the Lower Yakima Valley in the mid-1990s.

Environmentalists were suing dairy after dairy for violating clean-water laws -- winning judgments and settlements -- while state and federal regulators were cracking down on illegal dumping of manure into waterways.

"We watched what was going on in Sunnyside and everybody was paranoid of a lawsuit," Forester said. "We had to act."

There was good reason to worry. Nitrates were found above federal limits in 20 percent of private wells in Grant, Franklin and Adams counties. Another 37 percent showed elevated levels, indicating they were approaching the federal limit of 10 milligrams per liter. The contamination was showing up in both shallow and deep wells.

More than 90 percent of the area's population of about 177,800 relies on groundwater for drinking water.

Because of the contamination, federal officials threatened to declare the area a "sole source aquifer," a rarely used designation to protect drinking water supplies.

No one liked the idea, which would have given the government broad powers over the basin. For example, the U.S. Environmental Protection Agency would be able to review all federally funded projects and block agricultural loans that could result in increased groundwater pollution.

Farmers also worried the state would step in and limit the use of nitrogen-rich commercial fertilizer, which is critical to the region's 300 different crops.

Fears about government intrusion into the basin's farm-based economy prompted potato

farmers, hay growers, feedlot operators, dairies, ordinary residents, small-town officials, county commissioners and state legislators to look for an alternative.

"You had these very emotional meetings that drew crowds of people who were very scared that Uncle Sam would be taking over their water," recalled Paul Stoker, 59, of Othello, a former sugar beet farmer.

A lot was at stake. The basin's potatoes supply half the nation's french fries -- a cash value of about $630 million. Apples, wheat and corn are large-volume crops. There are large herds of dairy cows and beef cattle.

After four years of meetings by volunteer citizen groups, support grew for the idea of a Groundwater Management Area, which by law requires local management. Local lawmakers also backed the effort in the state Legislature, which agreed to help finance the plan.

Certified by the state in 2001, the groundwater management area now includes Grant, Adams, Franklin and Lincoln counties -- about 8,000 square miles of the Columbia Basin -- and operates on a budget of about $2.5 million in local, state and federal funds. Local businesses and farms don't pay into the groundwater management area.

Like the Lower Yakima Valley, poverty is higher in the four-county area than the rest of the state and a significant portion of the population, 47 percent, is Latino.

The area has come to be known by the phonetic pronunciation of its acronym, "gwama." The plan is based on recognition that the primary source of the groundwater problem is the application of fertilizer on irrigated lands, called nitrogen loading.

Ecology and state health officials, including then-state health officer Dr. Mimi Fields, praised the move.

"Nitrate contamination is often an indication that the water supply is vulnerable to contamination from other sources," Fields said in a statement at the time.

Programs to reduce nitrate leaching included using less irrigation water and planting crops with deeper roots, such as alfalfa, which can use nitrates that would otherwise enter the groundwater.

A review of samples taken by the groundwater management area over three successive years has shown a leveling off of nitrate concentrations for the first time in 40 years, according to the U.S. Geological Survey.

But nitrates are stubborn. Concentrations still exceed the federal drinking water standards in more than 20 percent of local wells and 35 percent of shallow wells.

The Columbia Basin groundwater management area is struggling to find the funding to continue its mission.

At a recent meeting, the groundwater management area's board updated an ambitious plan to map the layers of basalt in the basin. They want to know where the water is coming from and how old it is. So far they've mapped about 25 different layers that could hold water.

Stoker framed the question this way: "Where's the water coming from, or is it coming from anywhere at this point?"

If the aquifer is recharging from Lake Roosevelt, that's good news because it means the groundwater being pumped up for irrigation and drinking is new and free of nitrates.

"But if the water is a million years old, that's bad," said Stoker. "That says the aquifer is not recharging, or that we're just recharging from what we put back and that we may be running out of water."

Stoker owes the Legislature -- which funded the $2 million project -- the answers in January. But he said the work won't be done by then.

While they will have a model of the geology of the four-county area, they need a map of how the water flows. The information would be used for water management and regulation -- essentially to make prudent decisions about water use and the economic future of the basin.

Stoker, on behalf of the board, will request an additional $2.5 million from the 2009 Legislature for the hydrogeologic model. Given the forecast budget deficit, he said he knows it will be a tough sell.

A successful groundwater management area becomes part of the local government planning process, said Derek Sandison, who was a consultant to several GWMAs after they were authorized by the state in the mid-1980s.

Of 15 such areas formed in the last 10 years, only the Columbia Basin is still active as a stand-alone entity. County governments have absorbed many of the principles of groundwater management into their land-use and planning departments, according to Sandison.

Sandison, 55, has been director of Ecology's central regional office in Yakima since 2003 but was recently named the head of the department's new Office of Columbia River to be headquartered in Wenatchee.

Sandison said a GWMA could help tackle the Lower Yakima Valley's groundwater problem if all the parties that the law requires to be involved agree to participate.

"You wouldn't want to drag people kicking and screaming," he said.

The idea hasn't caught on in Yakima, but the Washington State Dairy Federation is willing to participate in a groundwater management plan if other parties join. Jay Gordon, executive director of the federation, said representatives of all possible sources of contamination, including golf courses that apply fertilizer, would have to be at the table.

"I have said we are ready to have that discussion as long as we invite the entire village," Gordon said.

Although it's managed to survive independently this long, the Columbia Basin area has had to cut some of its more popular programs, including free nitrate testing for local well owners and community education about the health effects of nitrates.

The Grant County Health District still provides sampling bottles and instructions for well owners on how to collect water for testing. Residents can drop the bottles back at the district, where they are picked up twice a week by area laboratories that do the testing for about $42.

Despite the cutbacks, the nine county commissioners are still behind the groundwater management area, according to LeRoy Allison, a Grant County commissioner and longtime board member. The counties provided $40,000 this year to the budget.

"It took a big broad effort," Allison said. "But the fact that we've developed information for local decision-making, as opposed to what the federal government wants to tell us, has been the biggest benefit."

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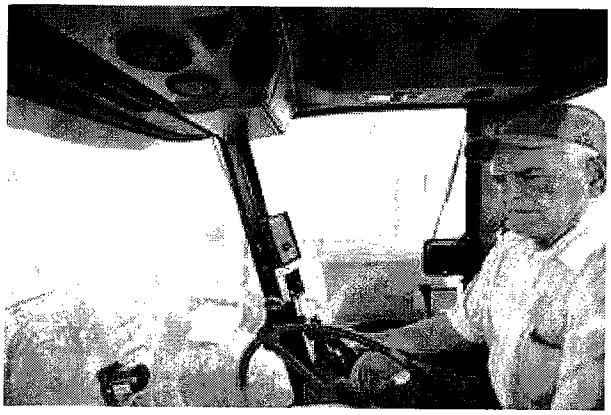
KRIS HOLLAND/Yakima Herald-Republic
Dwain Forester activates an irrigation pivot on his Royal City farm Friday, September 19, 2008.



KRIS HOLLAND/Yakima Herald-Republic
Dairyman Dwain Forester harvests silage on his Royal CIty farm Friday, September 19, 2008. Forester joined an effort to combat nitrate contamination in the Mid-Columbia Basin.

KRIS HOLLAND/Yakima Herald-Republic
Dwain Forester uses a chopper to harvest silage which will be used to feed his 500 dairy cows on his Royal CIty farm Friday, September 19, 2008.

Links
- For more -- Special Section -- Hidden wells, dirty water
- Contaminated wells interactive map

From the Yakima Herald-Republic Online News.

Posted on Sunday, October 19, 2008

It's time to fix deplorable groundwater conditions

Yakima Herald-Republic

"What we've got here is
failure to communicate!"

-- From the 1967 movie "Cool Hand Luke"

One disturbing conclusion to draw from this newspaper's recent series, "Hidden wells, dirty water" is that there is -- to put it mildly -- a glaring lack of dialogue among various agencies and officials charged with monitoring the quality of groundwater in the Yakima Valley.

As a result, some parts of the Valley are awash with polluted wells, creating a health problem that is simply unacceptable.

At the same time, we were struck by an underlying sense of naiveté on the part of some landowners who apparently rely too much on faith in government regulation and perhaps not enough in individual initiative to monitor the quality of their well water.

The Lower Valley has long been noted for old, shallow wells that are prone to seepage pollution. As agriculture diversity and intensity have increased over the years -- particularly Confined Animal Feeding Operations such as dairies and feedlots -- so has fecal and nitrate penetration of shallow drinking water.

CAFOs are highly visible targets when it comes to looking for something to blame for polluted wells. The sheer volume of animal wastes they produce and the logistics of disposing of that waste should make them main contenders for a high degree of regulation and oversight, particularly surface and ground water monitoring, in any area in which they operate. That's a no- brainer.

But are new wells or other remedial action the responsibility of government (meaning taxpayers), or property owners? Surely. the latter must share in responsibility even if the low-income residents who are hardest hit by the problems and costs that come with bad wells will most likely need some kind of financial assistance.

Or, better yet: It's time to move away from old, individual -- and unregulated -- wells to more community wells that in turn come under more regulation. That's not a solution for isolated homes or farms, but for many others it may be.

That will be an ongoing debate. In the meantime, the regulatory network must be overhauled and given meaning.

What we found alarming about the findings is the lack of adequate licensing, inspection, oversight and, above all, coordinated regulation of wells.

One of the most telling quotes of the series was from Jay Manning, director of the state Department of Ecology, as he talked about the shared jurisdiction of his agency and the state Department of Agriculture for groundwater regulation:

"Both agencies sort of assume the other is going to take care of things and they don't. We clearly need to finish this job or move it all back to one agency. I don't care who has it but I'm frustrated by this middle position. We've stalled out."

What an indictment of agencies charged with critical regulatory duties linked to public health and environmental protection.

Clearly, it's time for an extreme makeover of the regulatory network, and good models for public, private and tribal cooperative initiatives can be found in the Columbia Basin and Walla Walla.

In the basin, similar concerns about groundwater ultimately led to creation of a Groundwater Management Area, which by law requires local management. Certified by the state in 2001, the groundwater management area now includes Grant, Adams, Franklin and Lincoln counties -- about 8,000 square miles of the Columbia Basin -- and operates on a budget of about $2.5 million in local, state and federal funds.

Local businesses and farms don't pay into the groundwater management area, but what a great idea for a clearinghouse that can coordinate efforts such as monitoring the effects of fertilizers on groundwater.

The Walla Walla Watershed Alliance is a similar joint effort to address the broad range of water, environmental and community development issues in the Walla Walla River watershed. It's a two-state (Washington and Oregon) nonprofit umbrella agency that includes local and state government and the Confederated Tribes of the Umatilla Indian Reservation. Just getting all the parties to the same table to discuss common concerns and issues has a lot going for it in this day and age.

In the earlier developmental days of the Yakima Valley, groundwater was pretty easy to take for granted -- perhaps because it's not visible like the surface water in streams and rivers. In those slower times, you built a house or farm and dug a well or wells for drinking and/or irrigation.

But times have changed, and so has the landscape of the Valley. It's time for new thinking and new direction to combat the growing problem of polluted wells. That requires individuals and all appropriate public and private sectors with a stake in proper management and environmental considerations to work together toward solutions. No one should be allowed to

sit on the sidelines and pout -- and then later file suit.

What we need here is the ability to communicate.

We need a meaningful system of oversight, regulation and monitoring of groundwater quality. We need a plan to aggressively address the deplorable conditions found in "Hidden wells, dirty water." (Read the series online at www.yakimaherald.com.)

** Members of the Yakima Herald-Republic editorial board are Michael Shepard, Sarah Jenkins, Bill Lee and Karen Troianello.*