

Rocky Mountain News

Rocky Mountain News (CO)

November 24, 2003

SERIES: SPECIAL REPORT: RUNNING DRY

SECOND IN A FOUR PART SERIES

HOME BUYERS IN DARK

MOST NEW DOUGLAS COUNTY HOMEOWNERS UNAWARE OF WATER ISSUES, POLL FINDS

Author: Deborah Frazier

ROCKY MOUNTAIN NEWS

Odds are poor that folks shopping for a home in Douglas County will hear anything from real estate agents, salespeople or builders about the area's shrinking water supply.

A Rocky Mountain News poll of 300 people who bought homes in the county during the last two years found that 81 percent were told nothing about water from the people who helped them make their purchase.

Five percent were told that water supplies are unlimited, which water experts say isn't true.

Yet more than a third of the homeowners know something is amiss with water resources. Thirty-six percent said they don't believe Douglas County has enough water to support future growth and development.

They could be right, if some experts' predictions are on target. In some parts of western Douglas County, homes and subdivisions already have had to redrill old wells or dig new ones as pumps went dry or water flows slowed to a trickle. And problems with pressure or production could spread to municipal and community wells in more populated areas of Douglas County as the aquifers that supply most of the county's water are drained, experts say.

The underground water supplies once thought adequate for 100 to 500 years may instead have much shorter life spans. Several water experts say wells in heavily populated parts of the county could dwindle or become too expensive to operate in as little as 10 years to 20 years if nothing is done.

Even some elected officials now acknowledge that well water supplies can't sustain the development that made the county the fastest-growing in the nation in the 1990s.

That message isn't getting to home buyers in the purchase process, according to the results of the poll commissioned by the News. The telephone poll, with a margin of error of 5.6 percent, was done in August by Public Opinion Strategies.

Only 12 people - 4 percent of those surveyed - said they were told water supplies are limited. Two respondents were told water supplies were reliable for 10 to 50 years.

One surveyed buyer was assured that the aquifer would last 100 years - a common misconception based on a misconstrued state formula for calculating how much water each well is allowed to pump. Experts call it "paper water" - it may be there, but getting it to the surface could be too difficult or expensive.

Mum's mostly the word

With a few exceptions, real estate agents, home builders and sales representatives did not return repeated calls from the News asking them what they tell buyers about water.

Real estate agents and salespeople are under no legal obligation to discuss water supplies with potential customers. And a reporter didn't get much information in visits to two dozen show homes across Douglas County, from Parker to Castle Rock to Roxborough.

One salesman said talking about water was a "no-no." Another said the supply came from Denver, when in fact, the water district for Highlands Ranch provided the water. Other salespeople said they didn't know anything about the water.

"We don't discuss it with buyers," said Ken Martucci at a Shea Homes project in Highlands Walk. "We are not experts."

Cheryl Haflich, a spokeswoman for Shea, said salespeople are told to refer water questions to water districts. Highlands Ranch has bought surface water rights that have reduced its reliance on groundwater to as little as 30 percent.

"We know that there is enough water to serve the population at Highlands Ranch," she said.

A salesman at another new development said the water situation was "too complicated" to explain to a buyer of a \$350,000 home. Some refused to give their names.

In several cases, the reporter was referred to a local water district, which offered information about drought and watering restrictions, not the supply.

"We never get any calls about it," said Paul Dannels, manager of the Castle Pines Metro District, which serves Castle Pines Village.

"Their aquifer levels are dropping. There's a lot of controversy about it,' he said. "Some say by 50 feet a year. Others say it's not that drastic. We don't know when it will run out."

Jerry McGuire, a second-generation Douglas County Realtor, was an exception to the reluctance of most agents to discuss the water supply.

"I work in the Highlands Ranch area, and water is a concern," McGuire said. "We tell buyers it's on the minds of people in local and statewide government."

Out-of-state buyers get a short lesson in desert living and the realities of 10 to 14 inches of rain a year, he said. And he asks Colorado residents how much they know about water to see if they're up to speed.

He said he tells people there's a 100-year supply, but he notes that it's uncertain how long the water will last. He also talks about drought and water restrictions, he said, but few people ask many questions.

If they want more detailed information, McGuire said, he directs them to Denver Water, which is the state's largest water district and supplies about 27,000 homes in Douglas County on a temporary lease. "I'm not a water expert," he said.

Even appraisers, who generally have no home buyer contact, differ on whether buyers should be told that wells could require costly redrilling or could run dry.

"Mother Nature put the best aquifers under Douglas County, and we haven't been affected, except in the west and the shallow aquifers, by the dry spell," said Lee Benjamin, an appraiser since 1989.

Groundwater users may, indeed, be better off in a drought because, unlike residents in most of the metro area, they don't rely on annual snow and rainwater runoff. But if their wells give out, they have little recourse but to persuade another water district to include them or to dig deeper and hope they hit a reliable source farther down.

Beverly Phillips, who appraises tracts of raw land for Value Consultants, said she thinks real estate agents should be telling buyers about the water.

"Anybody in real estate sales that's worth their salt should be addressing water issues," she said. "You can't develop without water."

Facing the future

The potential for a water crisis within a decade would be news to three-fourths of the home buyers who answered the survey. They said they believed Douglas County's water supplies for the next 10 years are very or somewhat reliable.

Ten percent said the 10-year supplies are unreliable and 16 percent didn't know or didn't answer.

Thirty-six percent said the county lacks enough water to support future growth and 40 percent said the county has enough water for growth. One-fourth said they didn't know.

Leaders searching for homeowners' financial help in solving Douglas County's water needs face a tough sell with almost half of those surveyed. Forty-seven percent said they would not support higher water rates or taxes to guarantee supplies, while 41 percent would.

So far, few have had a taste of water woes. Only 8 percent of those relying on wells had ever run out of water, less than 1 percent of the total respondents. Seventeen percent of those who use wells had experienced water quality problems and 13 percent had suffered low water pressure.

INFOBOX

Rocky Mountain News poll of recent Douglas County home buyers
.....PERCENT OF TOTAL RESPONDENTS

Where does your water you use at home come from?

- groundwater from a private well or wells.. 5
- groundwater from a community well or wells.. 10
- city, town or water district system.. 78
- other/don't know.. 8

Before you purchased your home, did anyone talk to you about your water supply?

- no.. 81
- don't know or remember.. 4
- yes.. 16

(Among those who said yes) Did they tell you would have a limited or unlimited supply?

told me there is a limited supply.. 4

told me there is an unlimited supply.. 5

talked to me but don't know or don't remember what they said about supply.. 2

talked me about water, but not about supply.. 4

(Among those who were told they had a limited supply) How many years did they say it would be reliable?

less than 10 years.. 0

between 10 and 50 years.. 1

between 51 and 100 years.. 0

more than 100 years.. 0.33

don't remember/don't know.. 3

How would you rate the 10-year reliability of the water supply in Douglas County?

very reliable.. 40

somewhat reliable.. 34

somewhat unreliable.. 8

very unreliable.. 2

don't know.. 16

Do you believe Douglas County has enough water to support future growth and development in the county?

strongly believe..12..

somewhat believe..28..

somewhat do not believe..17..

strongly do not believe..19..

don't know..24

Would you support or oppose an increase in water rates or taxes to guarantee future water supplies?

strongly support..10..

somewhat support..31..

somewhat oppose..16

strongly oppose..31

undecided/don't know..13

Have you had any problems with water quality at your home?....

no..83

yes, frequently..8

yes, occasionally..3

yes, only once in a while..4

yes, hardly ever..2
don't know..1

Have you had any problems with water pressure at your home?....

no..87
yes, frequently..6
yes, occasionally..3
yes, only once in a while..3
yes, hardly ever..1..
don't know..0

Have you run out of water at your home? (Asked only of those with groundwater wells - 44 respondents)

no..13
yes..0.01

Before buying your current home, where did you previously live?

Douglas County..25
Denver metropolitan area..20..
elsewhere in Colorado..21..
out of state..33
other/refused to answer..0

Ages of respondents..

18-24..2
25-34..31
35-44..30
45-54..17
55-64..13
65+..5..
refused to answer..3

Methodology: Public Opinion Strategies conducted telephone interviews with 300 people randomly chosen from a list of people who bought homes in the last two years. The poll, conducted Aug. 19-20, has a margin of error of plus or minus 5.6 percentage points. Percentages may not equal 100 because of rounding.

HOW DOMESTIC WELLS WORK

Homeowners who drill wells for their use usually choose to draw from the Denver or Dawson aquifers, the uppermost two of four sandstone formations in the Denver Basin that hold large amounts of water. Property owners can monitor the water levels in the well to adjust the pump intake location, because pressure drops as the water levels fall.

Denver Basin aquifers gpm = gallons per minute
Typical yield Aquifer.....Coverage....(single well)
Dawson.....1,200 sq. .mi.50-150 gpm
Denver.....3,000 sq. .mi.50-200 gpm
Arapahoe.....4,300 sq. .mi.250-600 gpm
Laramie-Fox Hills.6,700 sq. .mi.100-250 gpm

MARCHING TOWARD THE UNKNOWN

The beginning

When a well is first drilled into the aquifer, natural artesian pressure pushes the water contained in the underground sandstone toward the surface. Generally, the wells provide clean-tasting water at steady pumping rates. Water fills the well from the top of the aquifer to the surface.

Development accelerates

More and deeper wells are drilled into the aquifers as housing and commercial development increases. The water levels fall as the wells use up the artesian pressure, much like fizz in a champagne bottle diminishes with time when exposed to the air.

Today

Water levels in the Arapahoe aquifer used for many municipal and community wells are dropping an average of 30 feet a year. Water experts expect most of the large municipal wells to hit the top of the aquifer in two to 10 years

The future

When the water levels drop into the aquifer itself, pumping rates will slow dramatically. Experts and officials say water districts will need three wells to match the production of each existing well just to meet demand. In addition, experts differ on how much water levels will drop after reaching the top of the aquifer. Some say one or two feet a year, others say 15 feet or more a year, and some say declines will continue unabated at their current rates. Recent data from wells that have reached the top of the aquifer give credence to the theory that water level declines may slow some-what but will continue to drop significantly.

That means wells could become unproductive or too expensive to pump in 10 to 20 years.

Top of aquifer: Where water is no longer subject to artesian pressure pushing water toward the surface.

Static water level: Level that water would return to if wells were not pumping. Usually measured in April before months of high water use.

MORE WELLS, MORE PROBLEMS

Water is drained from an aquifer in a conelike pattern, called the cone of depression. When wells are too close together, their cones can interfere with each other, reducing the amount of water that can be pumped.

CHALLENGES IN DOUGLAS COUNTY

The red zone of Douglas County, known as Margin A, is an area defined by the Douglas County commissioners in 1998 as having dwindling water supplies. The commissioners put limits on development there because homeowners began reporting dry wells and plunging water levels and pressure beginning in the early 1990s. The yellow zone represents areas that have less risk of water problems but still have limits on development.

Copyright (c) 2003 Rocky Mountain News