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Frackwater blues

Drought, hydraulic fracturing may be on a collision course

By Jefferson Dodge

It seems as if the perfect storm is building.

And we can only hope it brings rain.

Forecasters are projecting a summer drought that could be the worst Colorado has ever seen. Snowpack is paltry. And yet oil and gas companies are only increasing their drilling and hydraulic fracturing, or "fracking," which use hundreds of thousands of gallons of water per application.

While municipal and state water officials downplay the amount of water being sold to oil and gas companies for their controversial extraction methods, calling it a miniscule percentage of their total water supplies, a Boulder environmental group is preparing to release a report calling for better data and planning regarding the use of water for fracking.

There is a brewing conflict in Colorado towns and cities that are selling significant amounts of water to the oil and gas industry (or the water companies that deliver to well sites), despite growing concern among their residents about the possible health hazards associated with fracking and other phases of the process. It promises to become an election issue at the local level, and already has in the Boulder County commissioners race, as voters decide who they want controlling public water supplies.

And in a handful of municipalities, including a couple in Boulder County, city councils are imposing moratoriums on things like new drilling permits with one hand, but accepting water revenue from those same banished companies with the other.

Cities and towns in the northeast quadrant of Colorado, the new hotspot for natural gas wells, are selling water to oil and gas companies because it can help fill a cash-strapped municipality's coffers, and it is more convenient and cheaper for the companies to tap water near a well site than have it trucked in from afar. Environmental activists and public officials mention Greeley, Fort Lupton and Loveland as prime providers of water for frackers.

And even here in Boulder County, Longmont and Erie are selling small amounts of water, contributing to a practice in which anywhere from 500,000 to 5 million gallons can be shot down a well in each fracking cocktail of sand and chemicals, to free pockets of natural gas.

In the grand scheme of things, local officials say, the water sold to the industry doesn't amount to much.

Yet.

Fred Diehl, Erie's assistant to the town administrator, says he is prohibited by state law from releasing details about Erie's water customers, but he and Gary Behlen, the town's director of public works, spoke with *Boulder Weekly* in general terms about the amount of water being sold for oil and gas operations. According to Behlen, about 80 percent of the town's water goes to residential users, 12 percent is devoted to irrigation of public lands like parks, and approximately 8 percent goes to commercial uses like oil and gas extraction, which itself represents only 1 percent to 2 percent of the total.

According to Diehl, in spite of the town's myriad efforts to regulate fracking in the face of an outcry from its residents about issues like the placement of wells near schools, it may actually be preferable for the town to sell water to companies rather than have them truck it in. And it's not just about the money, he explains. Allowing the company to use a meter to measure the water it takes from a town hydrant near a well site may have a lower impact than heavy water-truck traffic, so Erie wants companies to give the town first right of refusal, on supplying water in cases where it makes sense. Operators have been generally agreeable to that arrangement, Diehl says, although some are already locked into a contract with a water provider.

Another option under consideration, he notes, is to charge oil and gas companies, and maybe even their middleman water providers, a higher rate for water. According to Diehl, the town has rights to 3,900 acre-feet of water and used 3,000 of it in 2011.

When asked what would happen if the town were in a drought and had to choose whom to sell dwindling water supplies to, Behlen said, "Our first priority is to our residents."

Diehl added that a town ordinance would require Erie officials to restrict water for fracking before it limited water for residential indoor use.

"It would be contrary to our own law to favor commercial users during a drought," he says.

Similarly, Ken Huson, Longmont's water resources administrator, says that the city primarily "rents" its extra water for the irrigation of school fields and playgrounds, farming and the Platte River Power Authority to generate electricity.

"We won't have any surplus to lease to the oil and gas industry this year at all," he says, explaining that the companies are still getting enough water from municipalities near the heaviest well activity, whereas Longmont has a relatively small number of drill sites on its eastern borders. "If someone wanted millions and millions of gallons for oil and gas, we probably wouldn't allow it."

Huson says the city issued permits for only 1.9 acre-feet of treated "bulk water" to frackers last year, an amount that pales in comparison to the 7,800 acre-feet of surplus water it plans to rent out this year, the 17,000 acre-feet it used in 2011 and the 30,000 acre-feet to which it has access. **Edward Celias** "Nobody's applied yet this year," he says, probably



because they'd "pass three different places where they could get water on the way here."

But in a Jan. 31 memo to Longmont City Council, Huson and public works director Dale Rademacher acknowledged that the city also has a "raw water" agreement with A&W Water Services, which provides water to the oil and gas industry. Under that agreement, Longmont delivers water to the St. Vrain, primarily as effluent from its wastewater treatment plant, and it flows to the South Platte River, where it is used by A&W to offset the company's depletions. According to city documents, A&W has been using an increasing amount of Longmont's water over the past four years, from 150 acrefeet in 2008 to 480 acre-feet in 2012, for which it will pay the city \$123,840.

Huson told *Boulder Weekly* that the city does not permit selling water for commercial purposes during a Level 3 drought, which is the most severe.

Water officials also agree that despite the expected drought conditions this summer, the recent years of heavy snowpack — especially last year — successfully filled the various reservoirs that serve the northern Front Range, meaning that mandatory watering restrictions are unlikely.

But not everyone is so reassuring. What if we see several years of drought conditions, and oil and gas companies begin clamoring for water (and profits) just as loud, if not louder than, thirsty local residents and their lawns? It may sound extreme, but years down the line, water may become more valuable in the West than those shiny yellow nuggets during the Gold Rush. The Colorado River already runs dry by the time it reaches Mexico. Could Boulder Creek, the St. Vrain, the Big Thompson and the Cache La Poudre face similar fates?

A report due to be released in the next few weeks by Boulder-based Western Resource Advocates (WRA) calls for more information about the amounts of water the oil and gas industry is using, and where that water is coming from. It also urges officials to be more deliberate about planning for increasing demands on water supplies for operations like fracking before we get too far down that road, given that oil and gas companies are projecting massive future well activity in Colorado's portion of the Niobrara Shale Formation.

"It could really take off," WRA water resources engineer Laura Belanger, the lead author of the report, says of future water demands for fracking. "We need to slow down, and plan, and get it right. We could find ourselves dealing with unexpected consequences down the line."

Belanger acknowledges that there is a lot of water in Northern Colorado's reservoirs right now, but she takes a broader view. If the state suffers multiple consecutive drought years, "we're in trouble." Plus, she adds, a lot of the water surplus in the reservoirs could get used to compensate for this summer's drought.

"My understanding is that farther down the Platte, farmers will need plenty of supplemental water if they're not getting precipitation," she says.

Belanger says that state officials and pro-industry observers like to point out that more than 85 percent of the state's water is used for agriculture, and only 7.5 percent is used by municipalities, which makes the proportion used for fracking look insignificant. But she points out that according to WRA estimates, in 2011, the water used for oil and gas operations equaled more than the total amount used by the city of Lakewood, Colorado's fourth-largest city.

Instead of comparing oil and gas to agriculture, she argues, oil and gas needs should be compared to other municipal demands, because it is at the local level where frack water is going to become significant.

For example, the WRA estimates that in 2011, water for oil and gas production accounted for between one-third and two-thirds of Weld County's total domestic supply, and was more water than any single town in the county used, with the exception of Greeley.

"Are communities going to be asked to conserve water at the same time they are selling water to oil and gas companies?" Belanger asks.

She suggests that communities demand access to the agreements their cities or towns have made with water, oil and gas companies.

Belanger says one key finding in her report is that there is not reliable, aggregate data on things like the average amount of water used per well, in part because the state's website for companies to report details like the chemicals and water used, fracfocus.org, shows separate reports on each well, so "you'd have to go through every one manually and enter the data yourself."

Her WRA report is expected to ask the Colorado Oil and Gas Conservation Commission and others to produce more data, and in a more useful form, on things like chemicals used, amounts of water and the sources of that water.

Even if it's a dry year, she tells *Boulder Weekly*, the oil and gas companies will not stop drilling and fracking.

"They're going to get that water somehow," Belanger says. She also points out that while 90 percent of residential indoor water use is reused because it is processed by a wastewater treatment facility, water used for fracking is so polluted that even the portion regurgitated back up the well can't be salvaged.

"It's being permanently removed from the system," Belanger says. "Not only do you have that initial big use, but now that water's gone."

Granted, only about half of total residential water use is indoors, but even 17 percent of outdoor irrigation returns to area streams, she explains.

Regardless of the impacts we might see in the form of mandatory watering restrictions, which might result in the shocking notion that we don't have a front lawn as green as the neighbors', fracking and other demands on water could boost the argument for new diversion projects for Colorado watersheds, which not only affect recreational opportunities, but entire ecosystems.

Belanger points to examples like the Windy Gap Water Diversion Project and the Northern Integrated Supply Project (NISP), both of which would benefit Boulder County municipalities.

"It's proposed under the guise of municipal purposes, but a portion of it is going to fracking," she says. "Do we want our water used for this purpose?"

The NISP, which would benefit Erie, Lafayette and the Left Hand Water District, is opposed by Gary Wockner, executive director of Save the Poudre, who says "the exact same cities that are proposing new water diversion projects are selling water for fracking, and plan to continue to do so."

He and Brian Werner, the spokesperson for the Northern Water Conservancy District, which is proposing the diversion projects and which supplies water for several Boulder County cities and towns, disagree about the effects of such efforts.

Wockner argues that diverting even more of the depleted Poudre for Front Range sprawl and other uses, like fracking, will dry up the river. Werner maintains that Colorado needs more "buckets" to keep its excess water from flowing out of state. He says a portion of water from new reservoirs will be used to keep rivers like the Poudre flowing during times when it currently goes dry.

"NISP isn't going to dry up the river, I can tell you that," Werner says. "In fact, it's going to put more water into the river at times it's needed. ... I truly believe the river will be better off with the project than it is now."

Wockner calls Werner's claim a "newsflash" and suggests he put it in writing.

Werner counters, "It's not written down, but the participants from Northern Water have committed to that."

He says that commitment will appear in writing as plans are approved by Colorado Parks and Wildlife and the Army Corps of Engineers. He accuses Wockner of using "language to incite the masses."

Wockner says there is a classic "bait and switch" going on in which cities and towns claim they need more water to accommodate population growth, and yet they are selling water to oil and gas companies. He says the environmental impact statement on the Windy Gap diversion project is 1,472 pages long, and yet it never mentions fracking. Wockner also says the NISP's proposed Galeton Reservoir, near Greeley, would be formed over more than two dozen producing well sites.

"If they build these projects, every year will be a drought for Colorado's rivers," he says.

When asked what effect fracking has on Northern Colorado's water supply, Werner replies, "None. I wish we'd focus on issues that matter ... I think they're trying to create a red herring. ... I think they're trying to create hysteria."

There is, however, one thing that Werner and Wockner do agree on.

And that is the fact that in some areas this year, we may have the lowest snowpack the state has seen since 2002, when certain levels were the worst ever recorded.

The table is set. Now, all that remains to be seen is whether water glasses are served, whose glasses are filled, and who gets the check.

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