July 25, 2013. WTE Editor's Headline: "Living on Borrowed Time"

Where the university report focuses on diminishing surface water, Powder River Basin Resource Council's 2013 "Seven Point Plan to Protect Groundwater" concerns the depletion of aquifers through recent, massive energy development. Accordingly the report is subtitled, "Unconventional Oil & Gas Development Requires Wyoming State Action."

When coalbed methane (CBM) extracting began in earnest in 1992, unlimited groundwater-use was authorized as long as CBM is produced. Thus far, most of this water has ben lost forever: it's too contaminated to ever be of use again. The same holds true for recent, thirsty fracking operations: the "used" water, tainted with chemicals, is stored in enormous tailing ponds.

Statistics show that 99 percent of rural residents rely on groundwater; however, our growing uses of this resource aren't based on understanding that "the water currently on Earth is the only water we will ever have." Practically all of Wyoming's water is already allocated, and groundwater is rapidly becoming a limited resource. Two decades of CBM drilling, combined with nearly four decades of coal mining, has drawn down the aquifers in the PR basin to alarming lows.

Case in Point: Gillette

Gillette, situated in the heart of the PR basin, bills itself the "Energy Capitol of the Nation." To style itself thus, the town has had a dear price to pay for its water. For forty years it relied on the Fort Union Aquifer, but in 2008, groundwater drawdown prompted the State Engineer's Office to impose limits on Fort Union water withdrawals for oil and gas drilling and fracking, and even for construction operations nearby. The problem is, the State Engineer still issues "temporary" but renewable permits for water hauled from private wells for industrial oil and gas drilling and fracking operations.

This Campbell County city lives on borrowed time and water. Currently it survives on "imported groundwater" from the Madison Aquifer. Gillette's Regional Water Supply Project is financing yet another water pipeline from the Madison Aquifer near South Dakota's state line, at a cost of $226 million. Yet it will answer the city's water needs only through 2038.

Since mid-2012, the city has repeatedly issued moratoria on residential watering. However, inasmuch as the "unlimited 'temporary' water uses for oil and gas drilling and fracking" is worsening Gillette's water crisis beyond any worst-case scenario, residential restrictions are but a few raindrops falling on sizzling stones.

Development Going Full Tilt

It's estimated that approximately 3,800 new oil wells will be drilled in Campbell and Johnson Counties over the next decade, in addition to the 300 horizontal oil wells already existing in the Powder River Basin, and in addition to over a thousand more already permitted "since the boom started taking off in 2010."

With the new horizontal drilling and fracking techniques these operations employ, each well will consume up to 13 acre-feet of water—approximately 4 million gallons—for a one-time operation, and the water thus fracked is gone for good. By comparison, a single one acre-foot of water will sustain a family of four for an entire year.

Besides the concern over quantity, there are justifiable worries over water quality: unplugged or improperly plugged oil, gas, uranium or exploratory bore holes are conduits for aquifer contamination. It's foolhardy to leave the landscape pocketed with unplugged wells, yet for decades the state has failed to apply Abandoned Mine money for its allocated purpose.

To the Governor: A Call to Action

PRBRC's seven-action plan includes a comprehensive groundwater inventory as well as groundwater "control areas" for counties such as Campbell, where withdrawal has long outstripped the pace of recharge. Accurate reporting of the water used in oil and gas operations is a must, even in "temporary" arrangements.

A statewide task force, appointed by the Governor, should examine and report on "all Class 2 injection wells" and plan for their development and monitoring. A long overdue well-plugging program must be undertaken; another task force needs to investigate commercial oil field waste disposal facilities. A plan for cleaning up the contamination of aquifers and land must be established—and followed. Violations should be disclosed. For example, the Parkman Reservoir facility and the Linch facility continue to operate in violation of state, EPA, and Fish & Wildlife regulations. The Parkman evaporation pond's environmental condition is in "deplorable" condition, states a 2012 EPA report.

PRBRC urges that the actions proceed in collaboration with the Wyoming Oil and Gas Commission, the Wyoming Department of Environmental Quality, the UWYO School of Energy Resources and, where appropriate, the Wyoming Water Development Commission. Such collaboration would ensure analysis and assistance to the energy industry and "encourage recycling facilities and reuse of flowback" to the extent feasible.

In the considered opinion of this writer, these seven actions will not stave off disaster, even if Governor Mead were to implement them—which his record leaves reason for doubt. "Wells Dry, Fertile Plains Turn to Dust," reads the headline of a May 19, 2013, New York Times article on the High Plains Aquifer, which has been depleted through overuse. The aquifer's northern reaches still hold water, but not so its southern end. In Kansas and Texas, vast stretches of farmland lying over the aquifer no longer support irrigation. Up to a fifth of farmland along a 100-mile swath of the aquifer has already gone dry.

Overuse by the fossil-fuel industry is leading Wyoming down the same primrose path. When groundwater runs out, it is gone. Refilling the aquifer would require hundreds, if not thousands, of years of rains. Lack of water has lasting effects.

Unless we wish to leave a legacy of a state gone dry and residents overwhelmed by thirst,

our government must address the looming crisis by curtailing water use, not only for residents but also for the extractive industry. Do it before it's too late.