

Frac Attack

Gas extraction process depletes, pollutes neighboring groundwater.

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It's the season of heat, when we all think about water: for fishing and for filling tall, iced glasses. Wyoming's water is a vital and valuable asset – people, wildlife and plant life could not survive here without it. Yet it is vulnerable.

Much of the Upper Green River Valley contains groundwaters that are close to the surface. This water is used by residents for drinking, irrigation and watering livestock. There are more than 2,500 water wells in Sublette County, most for domestic use. Wildlife – including wintering herds from Jackson Hole – also depends on groundwater from springs and wetlands, and the Green and New Fork rivers receive groundwater discharged to the surface.

With perhaps 10,000 new natural gas wells in the Upper Green's future, it's time to get serious about informed water management. Highly toxic materials – including cancer-causing and genetic-mutating chemicals – are used to drill and complete these wells. Each gas well may be hydraulically fractured (or “fraced”) a dozen times, with each frac job using a million gallons of fluids that may contain benzene, toluene and other hazardous materials.

Roughly 30 percent (possibly more than 300,000 gallons) of the fluids from each frac job may remain in the ground and end up in groundwaters. The net amount of fracturing fluid that may be left in the ground from gas field development around Pinedale may exceed a billion gallons. Even a few ounces of some of these chemicals can contaminate a million gallons of groundwater.

Each gas well requires “flowback” pits to store hazardous materials, condensate (light oil) and saline “produced” water. There may also be radioactive materials present. The U.S. Environmental Protection Agency conducted surveys of more than 200 pits in Wyoming and found that roughly one in four were discharging their polluted contents into surface or groundwaters.

The Bureau of Land Management predicts that within 10 years, the Jonah and Pinedale Anticline gas fields southeast of Jackson Hole will collectively be generating more than 1.2 billion gallons of produced, polluted water each year.

The BLM also anticipates that the groundwater table would be drawn down 10 to 30 feet in areas of natural gas development, which could cause some groundwater wells and springs to go dry, and rivers to suffer reduced flows. It will take decades and perhaps centuries for the water tables to recover from a 10 to 30 foot drawdown.

Nevertheless, the BLM's draft resource management plan for more than a million acres of public land in the Upper Green contains no analysis of potential impacts to ground or surface waters from the use of fracturing chemicals. Nor does it address which chemicals are being used, their quantities, how much will stay in the ground or be spilled, or how much groundwater could be rendered undrinkable. ♦



Courtesy UGRVC

Flowback pits and “produced” water facilities are sights about to get a lot more common in the Upper Green.

What's Fracing?

To access gas deposits in the “tight sands” geology of Sublette County, engineers pump a sand/water/polymer mixture into the ground at extremely high pressure, fracturing the rock and freeing gas to seep through the cracks. The fracturing fluids are then pumped out, leaving sand particles behind to hold the fractures open. Before the development of fracturing technology in the early 1990s, gas drilling in this region was too costly to be profitable.

How You Can Help

The Pinedale Bureau of Land Management received about 100,000 letters by the June 18 deadline commenting on its draft plan to manage more than a million acres of public land in the Upper Green River Valley. Plan team leader Kellie Roadifer said the BLM will analyze the comment letters and expects to issue a final environmental impact statement for the plan in December. At that time, there will be a brief opportunity for public comment before a record of decision is issued.

As the resource management plan process proceeds, water users should ask that the Pinedale Bureau of Land Management:

- ♦ Designate areas important for recharging aquifers “unavailable for leasing” or “no surface occupancy”
- ♦ Require the use of non-toxic fluids for drilling and completion
- ♦ Require “pitless” technology, and require liners and residual sludges of previously approved pits to be removed (not buried) and disposed of at appropriate hazardous waste facilities
- ♦ Require produced waters to be treated to drinking water standards before discharge to surface lands or waters
- ♦ Require best available water conservation measures to avoid depleting ground waters
- ♦ Limit groundwater withdrawal to a rate that will be balanced by natural recharge
- ♦ Require companies using hazardous chemicals on public lands to disclose the types and quantities of chemicals, and to post bonds sufficient to fully remediate any potential contamination
- ♦ Require mandatory monitoring, with measurable non-compliance triggers and assurance of sufficient funding and personnel.

Please visit www.jhalliance.org/Library/Alerts/PinedaleBLM_mgmtplan.pdf for more information.