FRACKING AND THE EARTH COMMUNITY 2014

by Ethel Howley, SSND

When did you first hear about fracking? For me, it was in 2007 at a meeting of socially responsible investors.

Actually, ***fracking***, is simply a buzzword for the more technical term, hydraulic fracturing. It is the high-pressure injection of water, chemicals and sand into shale deposits, 6-12 thousand feet below us, to release the gas and oil trapped within the rock. Today, it has been combined with horizontal drilling and other improvements in technology to harvest stores of gas and oil that it was previously thought were commercially unfeasible to access.

Experience:

Hydraulic fracturing is about to move into the Canadian Arctic, with companies exploring the region's rich shale oil deposits. But many indigenous people and conservationists have serious concerns about the impact of fracking on its people and wild life in more fragile northern environments. Canadian energy developments, according to many scientists and local residents, are proceeding rapidly without consideration for how emissions from these new fuel sources will affect the global climate.

Phillips shale oil A Conoco fracking site in Canada's Northwest Territories

Dozens of rivers flowing through the Canadian North are most picturesque and culturally important. They are especially significant to the Dene people living near the Arctic Circle in the Northwest Territories. For hundreds of years, the Mountain Dene people have been traveling upstream to salt licks that draw caribou, moose, and

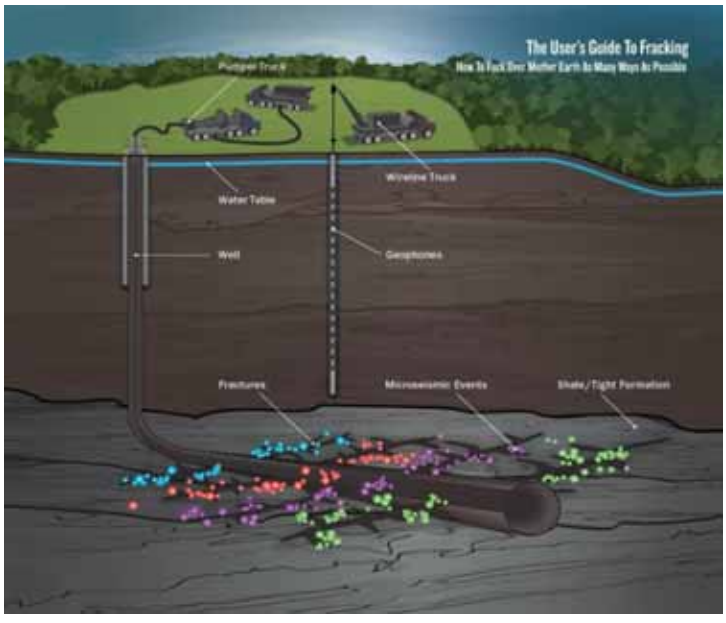
mountain sheep down from the high country in the early fall. For the Dene, it is the best opportunity to stock up on wild game, fish, and berries for the long winter.

Many Dene people living here and in other parts of the Canadian North are concerned that this *way of life* may be at risk now that two energy companies have been given the go-ahead to begin horizontal fracking in a region just south of the Arctic Circle. Conoco-Phillips has already fracked two test wells, and the company has plans to frack several more in the future.

In addition to the impact of fracking on wildlife, the effect on human life will likely be more devastating. Critics fear that fracking could pollute groundwater and trigger gas releases and seismic activity. Scientists say that many sensitive ecosystems of northern Canada —which include tundra, peat bogs, and permafrost zones — may be especially vulnerable to the large-scale disturbances that occur in areas of high fracking activity.

Some also worry about the so-called “boomtown effect” that comes with rapid development in remote and unpopulated areas — a phenomenon that is swiftly changing parts of North Dakota, Pennsylvania, and other U.S. states affected by so-called “unconventional” drilling for oil and gas. Residents of the Yukon and Northwest Territories fear, as a recent study has suggested, that these remote and sparsely populated territories have neither the governmental expertise nor the infrastructure to evaluate fracking initiatives or to deal with the possible consequences. This region has fewer than 1,500 people.

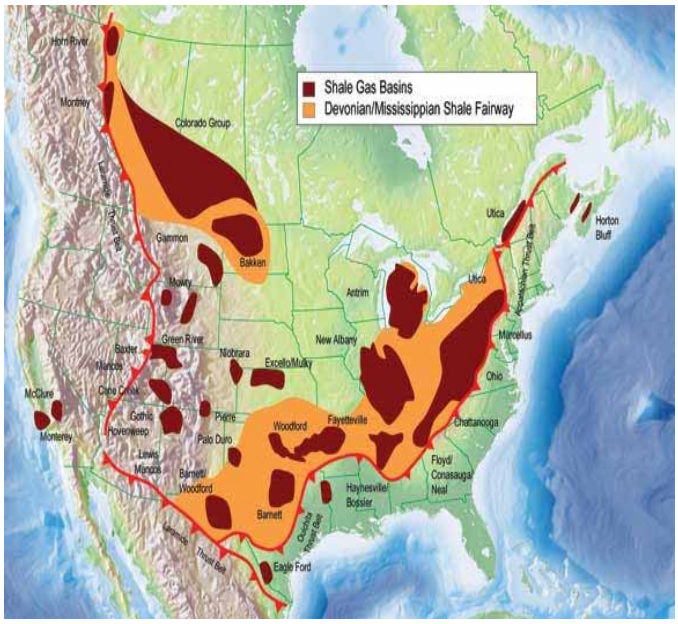
Jim Tredger, a former high school principal who represents the largely aboriginal community in the Yukon legislature, describes the future of fracking as a “defining moment in our history.” He and others successfully called for a *moratorium on shallow fracking* in the Yukon so that a full public review could assess the health and environmental risks. But the Northwest Territories is moving more swiftly to embrace fracking.



An oil pipeline corridor that is already along the Mackenzie River could theoretically send this newfound energy south in the future. The National Energy Board, the chief regulator in Canada, has also approved plans by Trans Canada — the company behind the controversial Keystone XL pipeline in the U.S. — to build a $16 billion natural gas pipeline from the Arctic

coast to Alberta. Low natural gas prices and increased U.S. production have put that project on hold.

Opposition in northern Canada — which comes from aboriginal groups, environmental organizations, and a Parliament of Elders in the Northwest Territories — has recently called for a moratorium on fracking in the Northwest Territories. These actions come on the heels of a Council of Canadian Academies expert panel report that points to unassessed risks and unknown impacts stemming from this controversial form of drilling.
The Council of Yukon First Nations has also *vowed that they will not allow fracking* on lands they control. In the face of this opposition, Conoco-Phillips and Husky have taken a pause for a year to address the concerns and questions that have been put forward.



“Fracking has the potential to affect everyone across the North,” says Doug Yallee, a local trapper, and former councilor for the local government. “It is a new technique in the Northwest Territories and we do not have enough information about it. We know it is banned in many places around the world because of concerns similar to ours.” Hydraulic fracturing has proven to be more controversial in Canada than in the United States, which has undergone a fracking boom in recent years. The government of Quebec has already banned fracking because of concerns about groundwater. The government of New Brunswick recently introduced regulations that put limits on the kind of water that fracking operations can use.

"Better that industry not get started rather than make a mess," a resident told the Yukon select committee on fracking. He said what most concerns him is that Canadian energy developments, including Alberta’s tar sands, are preceding rapidly without consideration for how emissions from these new fuel sources will affect the global climate.

Analysis:

In the United States, the energy companies have used fracking mostly for natural gas which provides cleaner fuel than coal, reduces dependence on foreign exports for energy, and also increases job opportunities here at home. On the other hand, opponents of fracking emphasize the detrimental effects it poses to the land, water and air. It has also been associated with earthquakes and seismic activity. US Environmental Protection Agency is working with states and other key stakeholders to help ensure that natural gas extraction does not come at the expense of public health and the environment. The Agency's focus and obligations under the law are to provide oversight, guidance and, where appropriate, rulemaking that achieve the best possible protections for the air, water and land where Americans live, work and play. The Agency is investing in improving our scientific understanding of hydraulic fracturing, providing regulatory clarity with respect to existing laws, and using existing authorities where appropriate to enhance health and environmental safeguards.

Periodically our newspapers carry reports of earthquakes occurring in states which have also seen a rise in thousands of new wells using hydraulic fracturing to obtain natural gas and oil. At the present time, there exists some fresh scientific evidence to back up the speculation that there is a connection between the two.

In April 2014, Ohio discovered a probable link between this drilling practice and five small tremors in eastern Ohio, a first in the Northeast. Their investigation of five small tremors in the Youngstown area, in the Appalachian foothills, found the injection of sand and water that accompanies fracking may have increased pressure on a small, unknown fault. This link has been classified as “probable.”

Other states experiencing seismic activity are Oklahoma, Texas, and Kansas. Researchers from Cornell University and the University of Colorado say a large swarm of earthquakes in central Oklahoma was probably caused by activity at a few highly active disposal wells, where wastewater from drilling operations — including fracking— is forced into deep geological formations for storage. Meanwhile, industry officials say additional studies are needed to nail down any link between the surge in earthquakes and drilling operations.

Regulators from Kansas, Texas, Oklahoma and Ohio met for the first time recently in Oklahoma City to exchange information on the human induced Earthquakes and to help states toughen their standards. They are banding together to combat the mounting risks of earthquakes tied to the disposal of wastewater from fracking for natural gas.

Right now it seems that where seismic activity has increased, it’s not due to the fracking itself, but to the injection of wastes from fracking into deep wells designed for waste disposal. There are two exceptions: in England, a UK company drilled one of its first

wells above a natural fault and seismic activity was felt and in Ohio, the seismic activity is possibly linked to some wells.

Energy companies across the board are failing to report reductions of their impacts on communities and the environment from fracking. One community concern is well-integrity, proper well construction, which will reduce risks to the ground water. The other major issue is groundwater monitoring pre-and post- drilling.

It seems that fracking is here to stay and companies must take responsibility to use safe methodologies to obtain the energy sources we all expect in order to maintain our life style.

Socially responsible investors are calling each company to adopt the following management goals for natural gas operations:

- Ensure that environmental, health, safety, and social risks are managed;
- Minimize surface disruption from natural gas exploration;
- Disclose and virtually eliminate toxic chemicals used in fracking operations;
- Protect water quality in neighboring water sources by rigorous monitoring;
- Minimize fresh water use;
- Store waste waters in secure, closed containers, not to pits open to the atmosphere, and recycle and reuse waste water;
- Prevent/minimize emissions of green-house gases and toxic chemicals by systematically identifying emission sources and monitoring ambient air quality prior to and during operations;
- Prevent contamination from solid waste and sludge residuals;
- Identify all impacted communities during the site selection process and address major concerns central to community acceptance of company operations.

At the same time, the oil and gas industry argues that the potential economic benefits of fracking justify the risks and costs to public health and the environment. Yet, the industry has grossly overestimated the number of jobs that fracking would create, and has either ignored or dismissed the public costs of the practice.

Reflection:

"We, SSNDs, are profoundly affected and challenged by the many divisions in our world . . . today and by the social, economic and ecological crisis of our times." We also aim to be faithful citizens of our countries. Consequently, let us reflect on the process and effects of fracking on all God's creation.

St. Francis of Assisi gave us a tradition of highlighting a special concern and responsibility for our Mother Earth and for all of Creation. Let us reflect on his *Canticle of the Sun,* particularly the references to our brother, sister, and mother.

Praised be my Lord for our <u>brother</u> the wind, and for air and cloud

. . . by which you give your creatures sustenance.

Praised be my Lord for our <u>sister</u> water,

which is very serviceable to us,

and humble, and precious, and clean.

Praised be my Lord for our <u>mother</u> the Earth,

which sustains us and keeps us,

and yields diverse fruits,

and flowers of many colors, and grass.

. . .

Praise and bless you the Lord,

and give thanks to God, and serve God with great humility.

Francis related to all created things with great respect and sought to be subject to them. Francis did not see human beings as above or outside of the rest of nature. He saw them as co-creatures of God, as sisters and brothers of all creatures. Francis stood in line with the community of creatures and as part of that community praised God as the

source of all life and of all creation. The relationship between humankind and nature, as proclaimed by Francis, is a relationship of use and not ownership, respect and not exploitation.

Reflection:

Each family needs a home. For the human family, this home is the Earth. In light of what I have learned about fracking, how can I be creative and take responsibility for our home?

How have my reflections on Earth and all God's creatures, brought me to a spirituality which calls for my response to nearby fracking activity?

Action:

You may say fracking is the work of energy companies, what can I do about it?

With **legislation**, you can keep informed on what your state's/province's regulations are. In partnership with states, **US Environmental Protection Agency** is examining the different disposal methods employed by industry to ensure that there are regulatory and permitting frameworks in place to provide safe and legal options for disposal of flowback and produced water.

Inform your province/state legislators on how you expect them to vote or co-sponsor new policies.

Check your own community's possible movement toward

- bringing in the *storage of fracking waste*,
- creating needed *job opportunities* within the fracking industry.

Check LCWR 2014 resolution
https://lcwr.org/sites/default/files/resolutions/attachments/lcwr_energy_resolution_2014_final.pdf

Check US EPA http://www2.epa.gov/hydraulicfracturing

With **prayer,** you can recite your favorite prayer for the companies, workers, and communities located near the wells. You could include this intention in the Prayer of the Faithful at the Eucharist. In community or personal prayer time, you may use the following petition.

God of all creation, all beauty, all nature,
who entrusted us with your world so ravishing,
and who must feel saddened by the destruction of your gift.
Help us to embrace this Earth,
to love, protect and cherish it,
preserve its life by our respect,
to sustain it for generations.
Amen.

With **education** for yourself and other contacts, you can read newspapers looking for information about local fracking, newsmagazines for a more global view, or energy company web sites for their goals and risk management policies related to fracking.

http://www.iccr.org/our-issues/environment/hydro-fracking

http://www.asyousow.org/our-work/energy/hydraulic-fracturing/

https://lcwr.org/sites/default/files/publications/files/rta11-12.pdf

With **outreach** to your friends, students, and colleagues, you can share the information you have gathered and encourage them to contact their legislators.