

The Real Cost of Fracking: How America's Shale Gas Boom Is Threatening Our Families, Pets, and Food

Michelle Bamberger , Robert Oswald , Sandra Steingraber (Foreword)

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A pharmacologist and a veterinarian pull back the curtain on the human and animal health effects of hydraulic fracturing, or “fracking”

Across the country, fracking—the extraction of natural gas by hydraulic fracturing—is being touted as the nation’s answer to energy independence and a fix for a flagging economy. Drilling companies assure us that the process is safe, politicians push through drilling legislation without a serious public-health debate, and those who speak out are marginalized, their silence purchased by gas companies and their warnings about the dangers of fracking stifled.

The Real Cost of Fracking pulls back the curtain on how this toxic process endangers the environment and harms people, pets, and livestock. Michelle Bamberger, a veterinarian, and Robert Oswald, a pharmacologist, combine their expertise to show how contamination at drilling sites translates into ill health and heartbreak for families and their animals. By giving voice to the people at ground zero of the fracking debate, the authors vividly illustrate the consequences of fracking and issue an urgent warning to all of us: fracking poses a dire threat to the air we breathe, the water we drink, and even our food supply.

Bamberger and Oswald reveal the harrowing experiences of small farmers who have lost their animals, their livelihoods, and their peace of mind, and of rural families whose property values have plummeted as their towns have been invaded by drillers. At the same time, these stories give us hope, as people band together to help one another and courageously fight to reclaim their communities.

The debate over fracking speaks to a core dilemma of contemporary life: we require energy to live with modern conveniences, but what degree of environmental degradation, health risks, and threats to our food supply are we willing to accept to obtain that energy? As these stories demonstrate, the stakes couldn’t be higher, and this is an issue that none of us can afford to ignore.

The Real Cost of Fracking: How America's Shale Gas Boom Is Threatening Our Families, Pets, and Food Details

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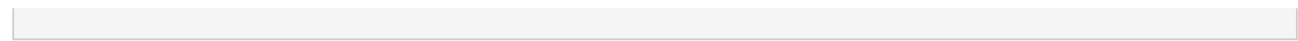
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Nikki says

Overall I would consider this in the vein of Erin Brokovich's case(s), albeit this is a more complex situation with even more people being impacted and many more chemicals. The book is not written poorly but it is not written in a terribly inviting way either. I think a layman would be able to digest much of the information but there is a great deal of scientific data, frustratingly much of it repetitive. The individual stories are heartbreaking and unfortunately only the tip of the fracking iceberg. The book covers an important topic impacting the environment and families today and unfortunately for an unforeseen time into the future.

Karel Baloun says

Glad this was written, as a collection of testaments to the personal cost of fracking done badly. Yet the book was rushed and not carefully crafted.

The technical summary of how fracking works as an appendix is a good introduction.

Julie says

Shale gas drilling and the many faces of interdependence

“The Real Cost of Fracking: How America’s Shale Gas Boom Is Threatening Our Families, Pets, and Food,” by Michelle Bamberger and Robert Oswald, got me thinking about interdependence, the reality that we are all connected through myriad threads, whether we acknowledge it or not. This book is full of gripping stories of people whose lives have been turned upside down by shale gas drilling in their pristine, rural communities.

On one level, it’s a nine-chapter slog through egregious practices by sloppy, greedy drillers and their disregard for farmers and for public health, as well as their shocking ignorance of the laws of physics (I mean, who really believes it’s fine to spread toxic wastewater on roads to “keep the dirt down”?).

The authors include story after story of loss: lifelong dreams, businesses, livelihood, personal health, beloved pets, and children’s health. There are few things more stressful than your child being gravely ill, especially when the illness can’t be properly diagnosed and the causes are ongoing and right next door. And, worse, you can’t prove it because there’s not enough good data.

Want to talk about unfairness? Many of the sufferers are not in financial arrangements with drillers; they’re just unlucky enough to be in the fallout zone from their neighbors’ leases. And even the neighbors experience changes to their land far greater than advertised and may not be receiving royalties yet (or ever).

The authors were careful to set out such evidence as they gathered from these people and resist making definitive claims of cause and effect. After all, correlation of events and symptoms is not proof. As scientists, they knew to let the gap stand between evidence and conclusions. But they also sensed that the stories would speak for themselves — and they did, loudly.

There are stories of two dog-breeding businesses failing; colts too weak to stand; stillborn calves; healthy dogs dying suddenly; a teen in and out of hospital over a year, eventually diagnosed with arsenic poisoning; a man bleeding from his nose, eyeballs, and ears; and a woman with recurring leukemia, seizures and renal failure, among many others.

The stories include leaking impoundment ponds, flaring wells, wastewater blowouts, non-disclosures, harassment, incomplete water and air testing, regulatory agencies biased towards industry, dream homes becoming worthless, carving up prime fields and pastures with access roads and drilling pads, backups of heavy diesel-exhaust-spewing truck traffic on narrow country roads, and the burden of testing and proof being placed on the victims.

One of the best aspects of this book is its truth-telling, always from the perspective of systems and networks of interdependence:

"Many proponents of gas drilling consider families such as these sacrificial lambs. They have lost their way of life so that the rest of us can continue to enjoy ours. We can purchase our 100,000 BTU barbecue grills and heat our poorly insulated homes to 75 degrees in the dead of winter. They are told that they are being patriotic, supplying the energy needs to our country so that we do not have to import oil from the Middle East. At the same time, multinational corporations are purchasing leases in Pennsylvania and planning to ship the gas to China and other lucrative markets. In most cultures, lambs that are sacrificed are treated with some respect, objects of reverence before the ultimate deed. Our sacrificial lambs are objects of derision that are cast aside and made to beg for water."

Environmental exposé books in the 1990s and 2000s tended to follow a pattern. They would have ten chapters detailing the many ways that humans are fouling the planet with our industry, our ignorance, and our ingenuity. The final chapter was always the "happy chapter," with empowering lists of what you, what we all, can do to turn it around and get us on the road to "sustainability." It's not too late! You just have to buy organic! Replace your gutters with rainbarrels! Drive a Prius! Lobby your congressman!

This book comes up to the edge of that in the Epilogue, with its recommendations about policy and zoning and testing, about who should bear the costs of protect public health, of the moral obligation to safeguard air, water and soil, not to mention the safety of agricultural products for human consumption beyond these toxic messes.

Instead of a "Ten things you can do to save the earth list," however, they write from the awareness that we are all connected and interdependent. They've already admitted to being shocked, angered, and dismayed at the plight of their subjects, as well as impressed and inspired, sometimes awe-struck, by their strength and courage in the face of enormous adversities and heartbreak. Such heart-based honesty is unusual in a book that also contains long lists of multi-syllabic, carcinogenic and endocrine-disrupting chemicals, medical diagnoses and peer-reviewed scientific studies. It's a welcome mix, one that drew me in both intellectually and emotionally.

In this final chapter, they point out that the energy we all use has to come from somewhere. After seeing the effects of extracting this particular energy source, they are moved to take specific actions, starting as small as

sending a check to a community church that makes daily water deliveries to low-income families whose water is too toxic to drink. They also tackled their own energy use, reducing it where they could: in home heating, transportation, and electricity use.

These actions are framed as ongoing personal choices, not a one-size-fits-all to-do list. Its effectiveness comes from being in the much larger context of the continuing environmental injustices of shale gas drilling — a cataclysm so great, they are well aware that they alone cannot fix it, much as they might wish to.

I admire this effort to speak out, to lay out the science and the evidence, incomplete though it may be. As these authors demonstrate, no one individual can do it all, but we each have a role to play, and together we might make a huge difference. Even if not, their example reminds me that I am by nature a compassionate person. I can bear witness to the suffering of others and let it move me to help them where I can. I can also take a hard look at how I live, and where I waste the precious energy that comes at such a high price.

victor harris says

The reading is a little hard going because there is a great deal of technical analysis but it receives a high grade for exposing fracking in all its horrors. It features a number of interviews with those victimized by the corporate fracking monsters and their allies in government and regulatory agencies as pets, water, and the environment are destroyed all in the name of maximizing profits. Owners who are duped into leasing their land for royalties discover they absorb the long term costs after the destruction is done and the frackers move on to another target. Sadly and contrary to the promotion by its advocates, the fracking barely benefits our own country as the corporations export much of the natural gas. Fracking is essentially a lose, lose, lose situation except for the companies and the amoral supporters who overlook its abuses and receive generous kickbacks for doing so.

Peggy Tibbetts says

In 2012, veterinarian Michelle Bamberger and Cornell University professor of molecular medicine Robert Oswald published their study, “Impacts of Gas Drilling on Human and Animal Health.” Their report documented cases studies with animal owners in Colorado, Louisiana, New York, Ohio, Pennsylvania, and Texas. In 24 cases they found evidence of animals affected by drilling and fracking operations. However their report received little media attention. So they wrote a book.

In “The Real Cost of Fracking: How America's Shale Gas Boom Is Threatening Our Families, Pets, and Food,” Bamberger and Oswald tell the stories of those people whose lives and the lives of the animals they loved and cared for were changed forever by drilling and fracking. They even go so far as to mask the identities of people who signed non-disclosure agreements, and who are in some cases speaking out for the first time.

The people in these stories are farmers. They raise livestock and pets, and/or grow “organic” fruits and vegetables that end up on dinner tables across the country. But how safe is food that has been grown and raised in an environment that contains toxic chemicals? In some cases the crops and cattle were

contaminated directly from spills of drilling fluids and wastewater, and they went to market anyway.

Bamberger also pays a visit to a tiny community without water after a company fracked in the aquifer underneath the town and blew up all the wells, then walked away from the mess. It is inconceivable that she is describing a town in the United States. Further evidence that fracking is transforming rural America into the Third World.

This book speaks to people who live in the gas patch. Where I live in Silt, Colorado, we are surrounded by more than 10,500 oil and gas wells. My own experience and the experiences of my family, friends and neighbors echo these stories. Yet no matter how much I've learned about this issue, no matter how much I think I know there is always something new to learn. I came away from this book with a better understanding of the cumulative effects from exposure to drilling and fracking chemicals in water and air, not only on humans but also animals and plants. How insidiously, over months, then years, the air and water become contaminated and people and animals become sickened.

Moreover "The Real Cost of Fracking" has something for everyone – believers and non-believers alike. Readers who want to stick to the facts about drilling and fracking will find "A Primer on Gas Drilling." Spoiler alert -- you cannot reach the end of this book and believe fracking is safe. Unless you think it's all lies. But Bamberger's and Oswald's research is well-documented and included.

With fracking happening in 32 states, plus the proliferation of interstate pipelines, silica sand mines (for fracking), bomb trains and earthquakes, and with natural gas exports on the horizon, the impacts of oil and gas development are coming to a neighborhood near you. I advise you to read "The Real Cost of Fracking" as soon as possible.

Joan says

This spelled out in often painful detail the effects of fracking on neighboring people and animals. Painful detail means difficult to read because unpleasant, not too much detail, although the book, by its nature, is very detailed. This book presents huge amounts of circumstantial evidence that fracking produces huge amounts of poisoning of people and animals resulting in many different diseases, and frequently affecting the reproductive system. Many animals had stillborn offspring or offspring that died shortly after birth. The writers, one of whom is a veterinarian, points out that animals and children are the initial living beings to show effects from fracking because they are often present more than adults in the contaminated area. Adults go off and work, etc, so they don't get the same exposure. The authors repeat frequently that the evidence is circumstantial due to the fact that the fracking industry will not release the info of just what chemicals are being used. They claim it is proprietary information. This I do not understand. Obviously everyone in the industry are using the same or much the same chemicals to do the job. So how is this information proprietary? They simply do not want to release the info to the public who would likely be horrified to find out just what chemicals are being used.

As of yesterday, New York has banned fracking within its boundaries stating much the same as these authors: that they cannot definitely prove the fracking is bad for health but they sure don't want their families near it. The cases in the book are all from Pennsylvania. It wouldn't surprise me if this book played a part in the New York decision.

Someone needs to cough up the money to buy and send copies to every state governor that is considering fracking. Start with Governor Brown of California!

This book is pretty grim reading which is why it took me a good while to read. But it was well worth the time to read it since I now have a visceral appreciation for why fracking is so bad for people, as well as the environment. Definitely recommended!

Chris Demer says

Written by a veterinarian and a professor of molecular medicine at Cornell, this is a scathing attack on the "fracking" business that has taken over vast swaths of the Marcellus and Utica shale areas in Pennsylvania and New York, as well as several other areas of the country, particularly in the west.

The authors describe the process of shale fracturing to obtain natural gas in some detail. But most of the book develops a picture of the process as it affects the people of the small towns and countryside where the fracking takes place.

Despite assurances by the gas companies involved, many small and not so small disasters have already occurred, and there is no slowdown in sight in terms of the number of wells planned or being developed. Many of the tragedies are explained through those suffering the effects. Among them are deaths and reproductive problems in livestock, devastation of pastureland from leakage of toxic fluids, contamination of many, may wells due to leakage of fracking fluids as a result of ineffective or damaged concrete barriers supposedly poured to prevent it, the spraying of contaminated fluids on roadways-both accidentally and purposefully. These toxins (only some of which are acknowledged by the gas companies, as many of the chemicals are not disclosed due to the "proprietary" nature of the substances)are known carcinogens and mutagens.

The stories of the farmers affected are very unsettling to say the least. And perhaps the worst aspect of all of this is the lack of response by the Pa and US Departments of Environmental Protection which are basically "handcuffed" by the gas companies, and unable to intervene in any meaningful way.

One "take away" message, is that we need to count ALL the costs of this natural gas that is supposedly a "clean" fossil fuel on which we are told to rely. It is far from clean!!! In addition to the damages cited above, there is substantial leakage of methane (the gas they are looking for), which has a devastating effect on the environment, with much more global warming potential than CO2.

We all need to think about the energy we take for granted and find ways to decrease use, lobby for renewable energy development, and spread the message that there is no such thing as "clean" fossil fuel.

Highly recommended.

Aaron says

Very interesting perspective

I am not an anti progress anti jobs person. But Ms. Bamberger sheds light on how companies can move mountains yet people can't. Government regulatory requirements exist not to make life difficult but to keep people honest. Pumping chemicals into our ground that will kill us if exposed just doesn't make sense.

Read Ng says

This was a Goodreads giveaway.

I would be scared of having any drilling next to my property and even more so after reading this book. Unfortunately, it is also a classic story telling of we say this and they say "nothing" and there is not really enough pre site documentation to prove your point. The little guy has been wronged, but they can't prove it and not enough is done to remedy the situation, let alone acknowledge a situation even exists.

The takeaway for me out of this is the proof that unregulated industry practices will lead to problems for us and the environment. What I don't know is if it is possible to safely frack if you only employ the best practices and checks and more safety checks. Not that drillers would find this to be economically viable, but could it even be obtained. No one should not be making trial and error steps to prove it is possible. And the industry does need to be more responsible for their actions.

Now go out and have a Goodreads.

Mike Stolfi says

Never mind living near an extraction industry site & suffering the consequences under a legal structure which indicates why Libertarianism does not work for a society in the real world, now now the proprietary contents of fracking fluids & what else comes up with them will come to us through our supermarkets. Fan-freaking-tastic.

Sarah says

i received this book for free through goodreads first reads.
a little hard to read both because of the way that it is written and because of the hard truth it talks about.

Roger Swab says

Pretty clear who owns the PADER from reading this book! It's amazing how complicit our regulatory people are in car rining out the orders from big corporate owned American government! Where has the integrity and simply to do the right gone!

Our government is not for the majority but the minority rich in this country!

Regulation and safety are meaningless to corporate oil companies rape and plunder this an every country for oil and gas!

Max Ritter says

This is what I call a Stance Book. It's a specific subgenre of current events non-fiction, in which the author(s)

present an argument for a certain belief. These books are common, and relatively easy to identify. Stance Books have true merit; they can expose people to new ideas and intellectual stimulation, or even just help readers refine their beliefs (as happened with me when I read "The Case for Animal Rights" by Tom Regan). Even if sometimes they contribute to information bubbles, they're still an informative way for somebody to expand their mind. That being said, the VAST majority of stance books are garbage.

For every insightful book outlining the rise of extremism in modern American politics, there's twenty with flashy titles like "Clutz in Chief: The Drumpf story", or "Obummer: How Barack Damaged the American Tradition". And yes, I made both of those titles up, but I would not be surprised to find them on the shelves at Barnes and Noble. Books like these, which are largely designed to attract brief attention and become bookshelf-buys, are the click-bait of literature. Usually you can flip to a random chapter and immediately detect how hollow and uninformative any of the content is.

However, this is a great Stance Book. "The Real Cost of Fracking" does exactly what it tells you it will do: outlines why we should be opposed to the process of hydraulic fracturing to obtain natural gas. It's a controversial topic that I knew less about compared to other environmental issues, so I picked this up for a quick read before going home for the summer. Upon starting, I tore this puppy apart in about 3 days. Granted, part of that is because it's a shorter book than it appears (it has thick pages and large margins), but it's also because the argumentation was addictive. Why? This was written by a scientist and a veterinarian, and yet it has the literary gravitas of some of the best non-fiction I've ever found.

The arguments are so filled with scientific research and technical speak, it gets a little dry. This is part of why it's four stars, not five. However, this works to its advantage. Most of the book contains first-hand accounts of families that have been damaged by fracking, so doing it through a lens of research allows for the book to hold up against almost any counter-argument. Stance Books are often purely opinion based or anecdotal, while some of them drown in so much science it's more of a thesis than an actual book. The Real Cost of Fracking finds a good balance, and effectively briefs the reader on this issue, both in terms of the science and in terms of the application.

Granted, I am probably this book's ideal choice as a reader. Somebody is young, loves reading, and is already passionate about environmental activism. Nevertheless, the closing chapter titled "Where Do We Go From Here?" was absolutely stirring and inspiring, not to mention the incredibly helpful Appendix that explains what the heck fracking is in the first place.

I feel more knowledgeable, and more interested, in the topic now that I've read the book. While I agreed with the authors going in, I have a better idea of why I believe these things and why I should fight for those beliefs. This is the ultimate goal of any given Stance Book, so this book was an objective success.

(Plus, it's such a great physical book to own. The matte-paperback cover feels so nice, the pages are thick, I could hold this book for 80 years. If this publisher makes more books like this, I'll listen to whatever garbage the author wants to write for me.)

Colby Glass says

This was a heartbreaking book to read, but essential. It tells the stories of American families accosted--really invaded--by multinational corporations who are uninterested in human beings or morals and with no allegiance to our country. They poison the environment, in the process making people sick, their animals and

pets sick, and polluting our food supply. Frequently, they end up killing people and/or animals.

"We learned that our land could be drilled under and the gas extracted without our consent... as long as a gas company owns leases on at least a certain percentage of the land (in New York, it is 60 percent) inside a certain amount of space (typically, one square mile), gas can be extracted from properties within that area even if the company does not have a lease on that land" (page 1).

These companies are mendacious, greedy, incompetent, wasteful, negligent, invasive, destructive, irresponsible, and have no respect for people or the law. Their workers sometimes steal tools and other things from the people on whose land they are drilling.

On top of that, they are using millions of gallons of our water per drilling site, mixing it with toxic chemicals, and pumping it underground, sometimes for miles, to "frack," or crack open, shale in order to extract gas. In the process often releasing even more toxic and sometimes radioactive materials. All the leftover trash water is stored on the surface, or used to water fields of vegetables, or used to water down road surfaces. As this water evaporates, the toxins are released into the air we breathe.

No federal or state agency seems interested in controlling these companies or testing the environment to find out what is being done to our country. It is shameless exploitation at the cost of the environment and those of us who live in it.

Beth Olson shultz says

A very good book. More people need to read this book. Reading the personal stories of how fracking is impacting people is very eye-opening. Won this book from goodreads.
