



# The Order of the Earth

## News, Views and Musings About Our Planet

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### UPDATES

#### Plankton Death Bloom: A Warning on Warming

By David Perlman  
San Francisco Chronicle

November 22 (excerpt) — Vanishing Arctic sea ice brought on by climate change is causing the crucially important microscopic marine plants called phytoplankton to bloom explosively and die away as never before, a phenomenon that is likely to create havoc among migratory creatures that rely on the ocean food, Stanford scientists found.

A few organisms may benefit from this disruption of the Arctic's fragile ecology but a variety of animals, from gray whales to seabirds, will suffer, said Stanford biological oceanographer Kevin R. Arrigo.

"It's all a question of timing," Arrigo said. "If migratory animals reach the Arctic and find the phytoplankton's gone, they'll have missed the boat."

#### Carbon Trading's Benefits in Doubt

Herald Tribune via Environmental News Network

December 10 (excerpt) — The European Union (EU) started with the most high-minded of ecological goals: to create a market that would encourage companies to reduce greenhouse gases by making them pay for each ton emitted into the atmosphere.

Four years later, the carbon trading system has created a multibillion-euro windfall for some of the continent's biggest polluters, with little or no noticeable benefit to the environment.

The lessons learned are coming under fresh scrutiny now, both in Europe and abroad. EU leaders will meet this week to work on the next phase of their system, seeking, they say, both to extend its scope and correct its flaws. And in the United States, President-elect Barack Obama has pledged to move quickly on a similar program.

As originally envisioned in Europe, companies would buy most if not all of the permits needed to cover their projected carbon-dioxide emissions for a year, one permit good for each metric ton of CO<sub>2</sub>, the main greenhouse gas. If they produced more gases than expected, they would have to buy more permits.

#### NEWS FLASH: Coal River Mine Permit Appealed by Wind Backers: Environmental groups said that they were appealing the Manchin administration's approval of a key permit change for a Massey Energy strip mine at a site where citizen groups are promoting alternative plans for a wind-energy facility. (December 18 email from CRMW.org.)



Black Mountain, Wise County Virginia. Coal companies say that mountaintop removal means jobs and prosperity but the reality is quite different. 25% of all the land area in Wise County has been destroyed by mountaintop removal but 20% of it citizens still live in poverty. Photo by J. W. Randolph

## Students Learn About Blowing Up Mountains for Coal

### Teens Plan and Run Environmental Meeting

By Kelly Habicht  
Westminster, Maryland

On November 10th, Boy Scout Venturing Crew 202 and the Green Earth Club from Westminster High School in Westminster, Maryland hosted a talk by J.W. Randolph on mountaintop removal. Mr. Randolph is a citizen lobbyist from the non-profit Appalachian Voices. The meeting was held at the Westminster High School media center and 32 students, family members and teachers attended.

Although the meeting was broadly advertised via the county newspaper and several citizen

groups, no members of the general public were present. This was a disappointment to the students, as they had hoped to spread the word about how a good portion of the electricity produced for Carroll County actually comes from mountaintop removal coal. To place the subject of mountaintop removal in context, Crew 202 President Eric Kazyak started the evening with a 22-minute video called "The Story of Stuff" by Annie Leonard. This film can be found on [www.storyofstuff.com](http://www.storyofstuff.com) and is a basic overview of how our current economic system works and why it won't keep working for long if we don't make fundamental changes and move to a sustainable, closed-loop system of producing goods and services.

The video described the human suffering created during natural resource extraction and different

phases of materials production and how deadly toxins are produced during many steps of the process. It also went into detail about how the U.S., back in the days of President Eisenhower, made a conscious decision to make ever-increasing consumption of goods the basis of the American economy. In this system, the primary value of the American citizen is as a consumer of goods.

The video showed that 99% of products become trash within six months and that these items are designed to last just long enough so that the buyer decides to trust the manufacturer and buy another one. By the end, the video had made a compelling argument that all of today's "stuff" hasn't made people happier and that society needs to make some big changes really soon.

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### EarthJustice Works to Stop Mongolian Mining

By Alice Thomas  
EarthJustice International

Editor's Note: Mongolia's vast mining reserves are being plundered without much concern for mine safety and environmental issues. Earthjustice (sic) attorney Alice Thomas provides this special report on her efforts to halt those devastating practices.

Situated between Russia and China, Mongolia is characterized by the dramatic beauty of its landscape and the fortitude of its nomadic herdsmen, descendants of Ghengis Khan. But Mongolia's environment and culture are imperiled by what many, unfortunately, consider its most valuable asset — its vast mining reserves.

Mongolia is home to some of the largest mineral deposits in the world. The use of outdated mining technologies and illegal mining practices has resulted in significant adverse impacts on the country's fragile watersheds and pastureland upon which its indigenous herders and their livestock rely. (Mongolia receives about 22,000 cubic meters of water per square kilometer of territory, placing it among the lowest 24 countries in the world in terms of water resources.)

Moreover, the situation is likely to grow worse. The opening-up to foreign investment in 1997 — and the discovery of some of the world's largest deposits of coal, uranium, copper and gold — has led to an explosion in the mining sector. Thousands of exploration licenses have been issued to foreign mining companies, eager to exploit these vast resources, from China, Russia, the United States, Canada, and elsewhere.

To address this threat, Earthjustice's International Program is working with Mongolian lawyers to strengthen their litigation skills and help them participate more effectively in the mine licensing and environmental impact

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## Next Generation of Earth Caretakers

By Heidi Ahrens  
Carbondale, Colorado

Sustainability, going green, solar power, composting — whatever reason brings you to read this newspaper — you are probably aware that the changes that you make in your lifetime will most likely effect the quality of life of the next generation. Most readers have less than eighty years left on this planet and even with extreme changes in car production toward fuel efficiency, we know that our choices will have much longer-term impacts.

So, I ask you this: What is the most important thing we can do to ensure that our efforts to create a cleaner, more sustainable future are supported and embraced? The key is to raise children who feel a connection to the earth and who are invested in the joy that the outdoors brings to their lives.

Our responsibility as folks who "think green" is to share with children our knowledge and passions in a way that will lead them to their own commitments to action. Kids (adults, too) love to play. We make sure that, through play, they have a connection to the natural world and later grow into caring and responsible stewards of the Earth. Outdoor play — whether it be climbing, playing in a field, hiking, surfing or canoeing — offers children opportunities to experience nature in a real and meaningful way.

That is why I started [OutdoorBaby.net](http://OutdoorBaby.net). It's a chance to go



Heidi Ahrens treasures time outdoors with her daughter. Knowing the importance of raising children to care for and protect the planet sparked her desire to create a Web site for families and children called [OutdoorBaby.net](http://OutdoorBaby.net). Photo by Erik Skeaff, Heidi's husband

beyond just ensuring that my own children grow up with an understanding of the sacredness of our planet, but to share the know-how

with other families who may not have as much knowledge.

[OutdoorBaby.net](http://OutdoorBaby.net) is a free service for parents with a variety of

approaches to enjoying the outdoors but with two shared goals: to be outdoors with their children and to share ideas with other parents. Families with children from birth through age 18 use the site to share ideas about how to tackle the outdoors with children and they use it for inspiration from other parents.

I want folks who care deeply about the future of our planet to think of ways to share their passion with our young ones. [OutdoorBaby.net](http://OutdoorBaby.net) was created to support the long-lasting benefits of outdoor play in children. Please take the time to share your ideas on this important information-sharing site.

Here are some stories to inspire you:

Erik (my husband) and I were getting ready to meet our little girl and we wondered how much outdoor activity would be possible after she arrived. So, when I was six months pregnant, I went on one last cross-country, skiing-hut trip at 9,000 feet. I felt very daring!

Then a friend of mine told me that she had been biking at the National Monument in Grand Junction. She was seven months pregnant, it was hot and the road was steep, very steep, with no curb. My accomplishment did not seem so huge after that.

Then a friend of mine who has always enjoyed the outdoors but never did anything really adventurous, talked to me about her

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## Endgame by Derrick Jensen

Hailed as the "Philosopher Poet" of the ecological movement, Derrick Jensen passionately explains how our industrial civilization, and the persistent and widespread violence it requires, cannot last. He weaves history, philosophy, psychology, environmentalism, economics and literature into an intricate pattern of truth and resistance. The 2006 Press Action Award called Jensen's two-volume *Endgame* "the best work of nonfiction in 2006. *Endgame* is the most important book of the decade and could stand as the must-read book of our lifetimes."

(Continued from last "OE")

After we'd been talking for hours, she asked, reasonably enough, "What right do you have to tell people they can't live in cities?"

"None at all. I couldn't care less where people live. But people who live in cities have no right to demand — much less steal — resources from everybody else."

"Do you have a problem if people in cities just buy them?"

"Buy resources, or people?" I was thinking of a line by Henry Adams: "We have a single system," he wrote, and in "that system the only question is the price at which the proletariat is to be bought and sold, the bread and circuses . . ."

I asked, "Buy them with what?"

"They give us food, we give them culture. Isn't that the way it works?"

I asked, "What if the people in the country don't like opera, or Oprah, for that matter?"

"It's not just opera. Good food, books, ideas, the whole cultural ferment."

"And if people in the country like their own food, their own ideas, their own culture?"

"They're going to need protection."

"From whom?"

"Roving bands of marauders. Bandits who will steal their food."

"What if the only marauders are the people from the city?"

She hesitated before saying, "Manufactured goods, then. Because of economies of scale, people in the city can import raw materials from the countryside, work them into things people can use and sell them back." Her first degree was in economics.

"What if people in the countryside also don't want manufactured goods?"

"Modern medicine then."

"And if they don't want that? I know plenty of Indians who to this day refuse all Western medicine."

She laughed and said, "So we go the opposite direction. Everybody wants Big Macs."

I shook my head, and more or less ignored her joke, as she'd ignored mine, for maybe the same reason. "People only want all this stuff after their own culture has been destroyed."

"I don't think it's necessary to destroy them. Much better to convince them. Modernity is good. Development is good. Technology is good. Consumer choice is good. What do you think advertising is for?"

Maybe both Henry Adams and the Roman satirist Juvenal should have mentioned advertising as well as bread and circuses. And maybe they should have mentioned the importance of dictionary definitions for keeping people in line.

I stood my ground. "Intact cultures generally only open their doors wide to consumer goods at gunpoint. Sure, they might pick and choose, but not enough to counterbalance the loss of their resources. Think of what NAFTA and GATT have done to the poor in the Third World or in the United States. Think of Perry opening Japan, or the Opium Wars, or —"

She cut me off: "I get your point." She thought a moment. "Instead of manufactured items, give them money. A fair price. No ripping them off. They can buy whatever they want with all their money, or rather our money."



"And what if they don't want money? What if they'd rather have their resources? What if they don't want to sell because they want or need the resources themselves? What if their whole way of life is dependent on these resources and they'd rather have their way of life — for example, hunting and gathering — than money? Or what if they don't want to sell because they don't believe in buying and selling? What if they don't believe in economic transactions at all? Or even moreso, what if they don't believe in the whole idea of resources?"

She got a little annoyed. "They don't believe in trees? They don't believe fish exist? What do you think they catch when they go fishing? What are you telling me?"

"They believe in trees and they believe in fish. It's just that trees and fish aren't resources."

"What are they, then?"

"Other beings. You can kill them to eat. That's part of the relationship. But you can't sell them."

She understood. "Like the Indians thought."

"Still think," I said. "Many traditional ones. And cities have gotten so large by now — the city mentality has grown to include the whole consumer culture — that people in the country certainly can't kill

enough to feed the city without damaging their own landbase. By definition they never could. Which leads us back to the question: What if they don't want to sell? Do the people in the city have the right to take the resources anyway?"

"How else will they eat?"

We heard the wind again outside, and rain began to spatter against the windows . . .

She said, "If I were in charge of a city and my people — my people, what an interesting phrase, as if I own them — are starving, I would take the food by force."

More wind, more rain. I said, "And what if you need slaves to run your industries? Would you take them, too? And if you need not just food and slaves but if oil is the lifeblood of your economy, metal its bones? What if you need everything under the sun? Are you going to take it all?"

"If I need them —"

I cut her off: "Or perceive that you need them . . ."

She didn't seem to mind. "Yes," she said, thoughtfully. I could tell she was changing her mind. We were silent a moment before she said, "And there's the land. Cities damage the land they're on."

I thought of pavement and asphalt. Steel. Skyscrapers. I thought of a five-hundred-year-old oak I saw in New York City on a slope overlooking the Hudson River. I thought of all that tree had experienced. As an acorn it fell in an ancient forest — except that back then there was no reason to call those forests ancient or anything but

home. It germinated in this diverse community, witnessed runs of fish up the Hudson so great they threatened to carry away the nets of those who would catch them, witnessed human communities living in these forests, the humans not depleting the forests but rather enhancing them by their very presence, by what they gave back to their home.

It witnessed the arrival of civilization, the building of a village, a town, a city, a metropolis and from there, as Mumford put it, the "Parasitopolis turns into Pathopolis, the city of mental, moral and bodily disorders, and finally terminates in Necropolis, the City of the Dead."

Along the way, the tree said good-bye to the wood bison, the passenger pigeon, the Eskimo curlew, the great American chestnuts, the wolverines who paced the shores of the Hudson. It said good-bye (at least for now) to humans living traditional ways. It said good-bye to the neighboring trees, to the forest where its life began. It witnessed the laying down of billions of tons of concrete, the erection of rigid steel structures and brick buildings topped with razor wire.

Unfortunately, it did not live long enough to witness all of this come back down. The tree, I learned last year, is no more. It was cut down by a landowner worried that its branches would fall on his roof. Environmentalists — doing what we seem to do best — gathered to say prayers over its stump.

I told her this story . . . "Fuck," she said. "I get it. . . Damn it." Then she smiled just slightly . . . Suddenly she said, "You know, if we're going to do this much damage, the least we can do is tell the truth."

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## From the Editor



Dear Friends,

I am delighted to introduce our readers to Kelly Habicht, a 10<sup>th</sup>-grader in Westminster MD, who not only wrote a great front-page article about the bane of our cheap electricity — blowing up mountains in West Virginia to get to coal easily, but who knows how to climb rocks and rappel, something I've always wanted to try that I've seen set up for children at local summer carnivals but felt I was too big. (Not too old, mind you, just too big.)

Other new writers are Mare Cromwell (Wondrous Worm story on page 8), Heidi Ahrens (OutdoorBaby.net on page 1) and John Stoneman (American Chestnut story on page 3). David Woolley-Wilson helped me develop the captions for page 7 after taking the time to show us around the Enviro-Center.

I'd like to thank Jenny Michalak for designing our beautiful page 3 and for helping me re-do page 1, as well as giving me moral support when I didn't understand this publishing software very well and teaching me new tricks about page design.

As usual, my publishing partner and friend, Kim Stenley, helped behind the scenes.

And Brian, over there at the *Herald-Mail* (our printers), has remained a faithful supporter and colleague for "The Order of the Earth."

Thank you all for joining us!

For the Earth,

Iona



Photo by Terry Darling

### 5,000 Years of Empire: Ready for a Change? Message from the Hopi Elders

To my fellow swimmers:  
There is a river flowing now very fast.  
It is so great and swift that there are those who will be afraid.  
They will try to hold onto the shore.  
They are being torn apart and will suffer greatly.  
Know that the river has its destination.  
We must let go of the shore, push off into the river, keep our heads above water.  
At this time in our history, we are to take nothing personally, least of all ourselves, for the moment that we do, our spiritual growth and journey come to a halt.  
The time of the lone wolf is over.  
Gather yourselves. Banish the word struggle from your attitude and vocabulary.  
All that we do now must be done in a sacred manner and in celebration.  
We are the ones we've been waiting for.

## ADVERTISE WITH US

Full page color = \$350; Half page color = \$200; Quarter page color = \$100  
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## DEADLINE = 10th OF EACH PRIOR MONTH

## BULK ORDERS TO SELL AT EVENTS

25 copies = \$20; 50 copies = \$35; 100 copies = \$65  
200 copies = \$125; 300 copies = \$175 Thank You!

## The Order of the Earth News, Views and Musings

**Our Goal:** To create a hugely successful newspaper that will report the story of people around the world working to protect their land bases, strengthen local communities and achieve 90% greenhouse gas reductions by 2030.

**Our Mission:** To inspire and encourage readers to think seriously, act intelligently and be peaceful, compassionate, courageous and creative.

**The Dream:** Humans can co-exist with Nature and, once they do, both will flourish.

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**Masterhead:** We say "Volume 8" because Iona started producing a newsletter with the same name seven years ago. In 1995 Iona wrote a tiny booklet called "The Order of the Earth" and, with friends helping, made and gave away 11,000 of them. This is an expansion of the concept. The photo is a snowy tree on "our" land.

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### DEADLINE FOR ALL SUBMISSIONS: 10TH OF THE PREVIOUS MONTH

**First Amendment to the U. S. Constitution:** Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people to peaceably assemble, and to petition the Government for a redress of grievances.

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I no longer believe we can use the system to change the system. Let it all fall apart. I no longer want to live in their world so I must create/find my own.

--- Kim Stenley





Photo by John Stoneman

American Chestnut trees in foreground, looking out at the Allegheny Reservoir at Elijah run in Allegheny National Forest, Pennsylvania.

# Finding the American Chestnut



Photo by John Stoneman

American Chestnut burrs opening up on a tree near Rimrock Scenic Area at Allegheny National Forest, Pennsylvania.

By John Stoneman

By now, a lot of people in our region, Northwest Pennsylvania, the Allegheny National Forest (ANF) and what is now called "The Pennsylvania Wilds," have heard that our group, The Friends of Rimrock, has located, documented and photographed a very good number of live, American Chestnut trees at the Rimrock Scenic Overlook area of the ANF.

Once abundant in the woods in Northern Pennsylvania, they are thought to have all been "extinct" with few exceptions. Most American Chestnut trees died from the American Chestnut Tree Blight in the 1920's.

The surviving American Chestnuts nearly all end up getting "the blight" usually within their first five years or so and not many make it past 12 years of age. Since on average they start producing fertile, viable "nuts" or seeds at about 15 years, our find at Rimrock is very special indeed. It's somewhat of a mystery as to why these trees at Rimrock show no signs of blight.

Most Chestnut trees in America have been cross bred with Chinese Chestnuts (a blight-proof variety) to make them immune to the blight but our trees at Rimrock are pure-bred American Chestnuts.

We have living American Chestnut trees representing all ages. Some are year-old "seedlings" and some are maybe 40 or more years old (towering some 60 to 70 feet tall!), many producing nuts, or more appropriately "burrs" containing nuts or seeds.

Our group, The Friends of Rimrock

(formed in early 2008), is a coalition of outdoors groups who thought it was important to save Rimrock (see: [www.saverimrock.com](http://www.saverimrock.com)) from impending oil and gas extraction, oil and gas production and their related excessive logging that precedes well-site development, road building and the related gravel and brine pits.

Oil and gas development have all but totally destroyed the Allegheny National Forest. Many people besides us feel that Rimrock is the "Crown Jewel" of the ANF. This is where some environmentalists decided to "draw the line in the sand."

Groups like the Allegheny Defense Project have well documented the destruction that oil and gas extraction has done to the ANF already (see: [www.alleghenydefense.org](http://www.alleghenydefense.org)).

We did not want what had already happened to most of the ANF to happen at Rimrock so last spring we formed The Friends of Rimrock or FOR for short.

We held informational walks, talks and hikes all year long. We maintained a "table" every Sunday at Rimrock, where we had petitions to sign; we handed out informational fliers and had many photos of what the oil business is doing to our public lands. We got thousands of signatures on our "Don't Drill Rimrock" petitions. We talked to thousands of enthusiastic visitors who told us story after story about their personal experiences at this natural wonder.

Many people, too numerous to mention, shared stories of how this place affected their lives. This place is too important to lose to the "boom

and bust" oil business.

A very sweet older couple came one weekend and the wife was too weak to walk around or even stand by herself. She set up one of those "old fashioned" web lawn chairs next to our information table and talked with Bill B. (board president of the ADP). Her husband and she were looking for an "endangered species" of flower, the Small Whorled Pogonia, that they believed was in the Rimrock area. We talked it over and thought that IF there were any of these real important and rare flowers in this area, we should probably help them find them before they are bulldozed over in the quest for the then "highly valuable oil and gas." No matter what the value is, they would certainly bulldoze over the Small Whorled Pogonia to get to it!

This is where my story

starts . . . FINALLY!

I came back to the table after showing somebody something at the nearby overlook, a cave opening or something. Bill and the older couple were talking about the Pogonia and how to identify it. Bill walks off behind where the woman was sitting, only a few feet behind her, and finds what he thought WAS a Small Whorled Pogonia (they did turn out to be the more common Large Whorled Pogonias).

What are the odds of that happening? Finding a Pogonia of ANY type nearly right under where this woman was sitting!

But the rest of that day, Pogonia hunters were we!

Off I went, out along a ridge that I thought might be a likely spot to start looking and almost immediately, what do you suppose I find? You are right, if you said "live

American Chestnut Trees, un-hybridized, and nut producing"! Go figger! I was as surprised as you are! I was looking for the Small Whorled Pogonia, not the more rare, living, nut-producing, American Chestnut!

I ran back to Bill at the table and I may have been a bit rude, tugging at his shirt sleeve while he was still talking to the older couple, desperately trying to interrupt him, mid sentence! But I was excited! I had a strong feeling I had just found the near-extinct American Chestnut that somehow escaped "the blight" and was here at Rimrock, seemingly thriving and producing nuts!

I did have some experience under my belt, having hiked and picked chestnut burrs at the Experimental American Chestnut "plantation" just east of Gowanda, New

York in the Zoar Valley Multiple Use Area. I had only a mild interest and education in American Chestnut trees but enough to suspect that we had pure American Chestnuts growing here at Rimrock!

After sending burr, seed, twig and leaf samples the Pennsylvania representative for the American Chestnut Foundation at Penn State (Sarah Fitzsimmons) and receiving conformation that our trees are indeed pure American Chestnut trees, we got real excited.

But as if to take the wind out of our sails, a local newspaper which did an article on our find, along with some representatives from the local oil producers, both said that "we" or namely I, had only found "Beech trees" and was trying to pass them off as American Chestnut trees just to stop the drilling at Rimrock.

We all believe that Rimrock warrants protection on the basis of its own special merits! It's the crown jewel of the ANF, Pennsylvania's ONLY National Forest for Pete's sake! Save it for that reason alone! It's the greatest natural attraction we have in this part of the state! Save it for the tourists and for future generations to enjoy!

I wanted to tell my story, not to try to claim fame or notoriety for the fairly rare find, but so that everybody understands that "I" or "we" (FOR) are not trying to pass Beech Trees off as Chestnut Trees to stop the oil production. Nor did we ever try to find an endangered or threatened species to accomplish that goal. Certainly finding blight-free, 100% pure, nut-pro

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Photo by John Stoneman

Three-year-old Maddox, the youngest member of the Friends of Rimrock, holding an American Chestnut leaf in Allegheny National Forest.



# Buried Secrets: Is Natural Gas Drilling Endangering U.S. Water Supplies?

By Abrahm Lustgarten  
ProPublica  
Part I of a Series

November 13 — In July, a hydrologist dropped a plastic sampling pipe 300 feet down a water well in rural Sublette County, Wyoming and pulled up a load of brown oily water with a foul smell. Tests showed it contained benzene, a chemical believed to cause aplastic anemia and leukemia, in a concentration 1,500 times the level safe for people.

The results sent shockwaves through the energy industry and state and federal regulatory agencies.

Sublette County is the home of one of the nation's largest natural gas fields and many of its 6,000 wells have undergone a process pioneered by Halliburton called hydraulic fracturing, which shoots vast amounts of water, sand and chemicals several miles underground to break apart rock and release the gas.

The process has been considered safe since a 2004 study by the Environmental Protection Agency (EPA) found that it posed no risk to drinking water.

After that study, Congress even exempted hydraulic fracturing from the Safe Drinking Water Act. Today fracturing is used in nine out of 10 natural gas wells in the United States.

Over the last few years, however, a series of contamination incidents have raised questions about that EPA study and ignited a debate over whether the chemicals used in hydraulic fracturing may threaten the nation's increasingly-precious drinking water supply.

An investigation by ProPublica, which visited Sublette County and six other contamination sites, found that water contamination in drilling areas around the country is far more prevalent than the EPA asserts. Our investigation also found that the 2004 EPA study was not as conclusive as it claimed to be. A close review shows that the body of the study contains damaging information



A drill rig near the town of Pinedale, Wyoming. Credit: Abrahm Lustgarten/ProPublica

that wasn't mentioned in the conclusion. In fact, the study foreshadowed many of the problems now being reported across the country.

The contamination in Sublette County is significant because it is the first to be documented by a federal agency, the U.S. Bureau of Land Management. But more than 1,000 other cases of contamination have been documented by courts and state and local governments in Colorado, New Mexico, Alabama, Ohio and Pennsylvania.

In one case, a house exploded after hydraulic fracturing created underground passageways and methane seeped into the residential water supply. In other cases, the contamination occurred not from actual drilling below ground, but on the surface, where accidental spills and leaky tanks, trucks and waste pits allowed benzene and other chemicals to leach into streams, springs and water wells.

It is difficult to pinpoint the exact cause of each contamination or measure its spread across the environment accurately, because the precise nature and

concentrations of the chemicals used by industry are considered trade secrets. Not even the EPA knows exactly what's in the drilling fluids. And that, EPA scientists say, makes it impossible to vouch for the safety of the drilling process or precisely track its effects.

"I am looking more and more at water quality issue . . . because of a growing concern," said Joyel Dhieux, a drilling field inspector who handles environmental review at the EPA's regional offices in Denver. "But if you don't know what's in it I don't think it's possible."

Of the 300-odd compounds that private researchers and the Bureau of Land Management suspect are being used, 65 are listed as hazardous by the federal government. Many of the rest are unstudied and unregulated, leaving a gaping hole in the nation's scientific understanding of how widespread drilling might affect water resources.

Industry representatives maintain that the drilling fluids are mostly made up of non-toxic, even edible substances and that when chemicals are used, they

are just a tiny fraction of the overall mix. They say that some information is already available and that releasing specific details would only frighten and confuse the public and would come at great expense to the industry's competitive business.

"Halliburton's proprietary fluids are the result of years of extensive research, development testing," said Diana Gabriel, a company spokeswoman, in an e-mail response. "We have gone to great lengths to ensure that we are able to protect the fruits of the company's research . . . We could lose our competitive advantage."

"It is like Coke protecting its syrup formula for many of these service companies," said Scott Rotruck, vice president of corporate development at Chesapeake Energy, the nation's largest gas driller, which has been asked by New York State regulators to disclose the chemicals it uses.

Thanks in large part to hydraulic fracturing, natural gas drilling has vastly expanded across the United States. In 2007, there were 449,000 gas wells in 32 states, thirty percent more than in

2000. By 2012 the nation could be drilling 32,000 new wells a year, including some in the watershed that provides drinking water to New York City and Philadelphia, some five percent of the nation's population.

The rush to drill comes in part because newly identified gas reserves offer the nation an opportunity to wean itself from oil.

Natural gas, as T. Boone Pickens said recently, is "cleaner, cheaper . . . abundant, and ours."

Burning gas, used primarily to heat homes and make electricity, emits 23 percent less carbon dioxide than burning oil. Gas is the country's second-largest domestic energy resource, after coal. [Ed.: But methane (natural gas) is an extremely potent greenhouse gas so not "clean."]

The debate over water arises at a critical time. In his last days in office President George W. Bush has pushed through lease sales and permits for new drilling on thousands of acres of federal land. President-elect Barack Obama has identified the leasing rush as one of his first pressing matters and is already examining whether to try to reverse Bush's expansion of drilling in Utah.

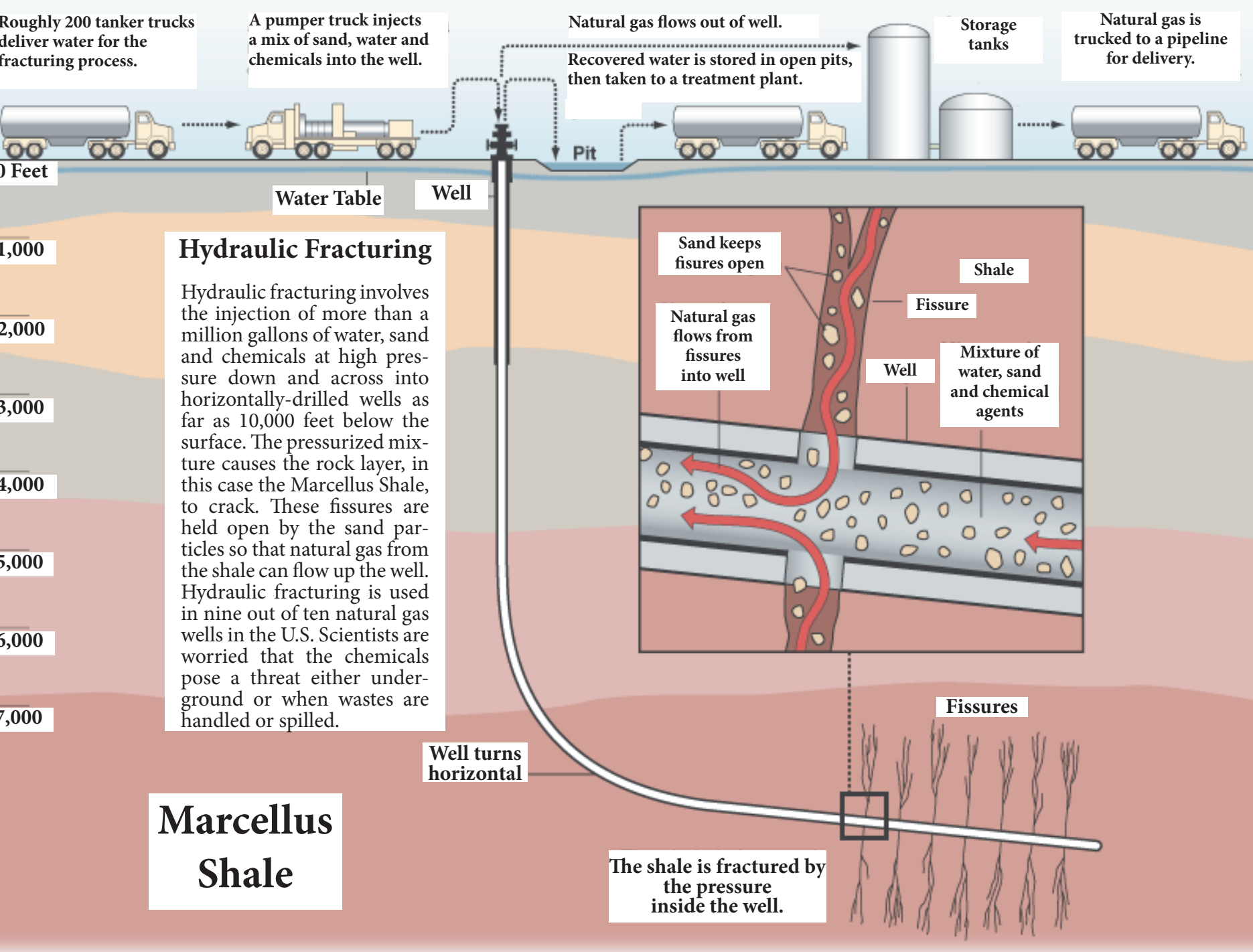
State regulators and environmentalists have also begun pressing the gas industry to disclose the chemicals they use and urging Congress to revisit the environmental exemptions hydraulic fracturing currently enjoys.

But in the meantime, the drilling continues.

In September, the Bureau of Land Management approved plans for 4,400 new wells in Sublette County, despite the unresolved water issues. Tests there showed contamination in 88 of the 220 wells examined and the plume stretched over 28 miles.

When researchers returned to take more samples, they couldn't even open the water wells; monitors showed they contained so much flammable gas that they were likely to explode.

**To Be Continued**  
ProPublica was launched as an activist and ethical news wire.



Graphic by Al Granberg



# Drill Press: Groups Want Stricter Regs

Environmental, Sportsmen's Groups Want Stricter Regulation of Natural Gas Projects

By Don Hopey  
*Pittsburgh Post-Gazette*

November 28 — Thirteen environmental and sportsmen's organizations have asked Pennsylvania to do a better job regulating water use and disposal by deep natural gas well drillers that are rushing to tap into the potentially lucrative Marcellus Shales geologic formation.

In a letter to the state Department of Environmental Protection (DEP), the groups said that if the deep well drilling boom continues without adequate regulation, permitting and enforcement, it could "irreparably and unnecessarily harm habitat and water resources. . . in some of the most pristine parts of the state."

Gas well drilling is expanding dramatically in Pennsylvania driven by higher gas prices and new horizontal well drilling technology that makes it possible to tap the 5,000- to 8,000-foot-deep Marcellus Shales.

The 200- to 400-foot-thick geological formation of black rock under much of Pennsylvania and parts of New York, West Virginia and Ohio, could contain up to 516 trillion cubic feet of natural gas and be the biggest gas "play" in the nation.

But the deep horizontal drilling rigs now operating in the state require large amounts of



*In a letter to the state Department of Environmental Protection, 13 groups said that if the deep well drilling boom continues without adequate regulation, permitting and enforcement it could "irreparably and unnecessarily harm habitat and water resources . . . in some of the most pristine parts of the state." Photo by V. W. H. Campbell, Post-Gazette*

water — up to four million gallons per well — to fracture or "frac" the shale and release the gas. More than 550 wells have already been permitted by the DEP and natural gas companies are leasing mineral rights across the state so they can drill many hundreds more.

Myron Arnowitt, Clean Water Action state director, said the letter follows up on a meeting several of the groups had with DEP Acting Secretary John Hanger in Harrisburg where the groups told him that well drillers shouldn't be allowed to drain streams and discharges must be treated and not just diluted.

The groups were reacting to reports that drillers had, according to the DEP, "pumped dry" Sugarcamp Run and depleted the flow in Cross Creek "down to the rocks on the bed of the stream." Both streams are in Washington County.

And although the gas industry denies it, the DEP has said that discharges of thousand of gallons of untreated well drilling water has significantly contributed to the high Total Dissolved Solids (TDS) readings in the Monongahela River. Those elevated TDS levels have worried some industrial water users and caused some public water supply customers concern about taste, smell and glassware spotting.

The brine water from the well drilling operations contains lots of salt — up to a pound per gallon — plus arsenic, a known carcinogen, and other heavy metals. The sewage plants, which have been allowed to dilute and discharge the drill water, are not equipped to remove the dissolved solids.

"Drilling companies have to come up with a way to treat their wastes and not foist them off on sewage plants," Mr. Arnowitt

said.

The groups are also urging the DEP to place pristine and environmentally sensitive areas of the state off limits to drilling and pipelines, better regulate water runoff and erosion around drill sites and publicly identify chemicals well drillers are adding to the "frac" water and pumping underground. (See previous page.)

"We think Hanger understands our concerns and the DEP is looking for ways to make this work," Mr. Arnowitt said. "But there are already problems and, going forward, we're concerned that economic considerations will override the environmental."

The gas well drilling industry groups and companies, especially those familiar with lighter regulations in other states, have recently been lobbying state legislators and the governor to speed well drilling permits and refrain

from imposing regulations that delay development of the Marcellus Shales gas field or "play."

In addition to Clean Water Action, this week's letter was signed by representatives of the Pennsylvania Campaign for Clean Water, Center for Coalfield Justice, Chesapeake Bay Foundation, Citizens for Pennsylvania's Future, Damascus Citizens for Sustainability, Delaware Riverkeeper Network, Mountain Watershed Association, PennEnvironment, Sierra Club Pennsylvania Chapter, Pennsylvania Trout Unlimited and the University of Pittsburgh's Center for Healthy Environments and Communities.

Teresa Candori, a DEP spokeswoman, said many of the groups' concerns have already been addressed in a Water Use Management Plan adopted by DEP in August. A permit condition added in mid-September requires drillers to file monthly reports on how much water they've withdrawn and from where.

But as of mid-November no water withdrawal plans had been filed with the DEP. Tom Rathbun, a DEP spokesman, said the lack of reports reflects a slowdown in drilling caused by poor economic conditions and recent declines in natural gas prices. It also may indicate that drillers are getting their water from public water suppliers instead of streams.

Both the environmental groups and the DEP agree that the department needs to hire additional staff to handle the expanding number of gas well permits, review and enforcement. That will be difficult given the state budget cuts and hiring freeze. Ms. Candori said the DEP is working on a request for new hires.

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# No Let-Off Until Zero Discharge

By Sunita Narain  
Environmental News Service

NEW DELHI, India, December 2 — A few years ago I wrote about a textile town called Pali, in the state of Rajasthan, which had completely toxified its seasonal river Bandi with industrial discharge. Then, I said the real story was not about pollution but about the anger of farmers whose agricultural lands were destroyed because of effluents, whose well water had turned poisonous and whose fight led the town to set up the country's first common effluent treatment plant.

The question I raised was — did we know how to clean chemical pollution in water-scarce areas?

The answer still is, no. But the persistence of pollution-affected farmers is ensuring the search for ways out is still on.

In 2006, with three common effluent treatment plants in place and a city-wide system to charge cess on every bale of cloth to pay for treatment, the River Bandi was still contaminated.

That year, my colleagues at the Centre for Science and Environment went to Pali, travelled downstream of the dry river and collected water samples. They tested the samples at our pollution-monitoring laboratory in Delhi and found high levels of toxins, even in the water of wells 30 miles downstream . . .

Their analysis also showed the common effluent treatment plants were not meeting stipulated standards; there was a high concentration of heavy metals in the wastewater.

My colleagues also found there existed ingenious ways to "beat" the system — the treatment



*Sunita Narain. Photo courtesy UNL*

plants had bypass channels, allowing effluents to flow without check.

Unacceptable, said the farmers for whom we prepared the report.

Government agreed the effluent-treatment plants would be upgraded, at U.S. \$3,824 million.

Partly, the problem was not the doing of industry but changing market preferences. When the plants were set up, cottons were in demand. Then synthetic cloth came into demand and the dyeing units shifted from alkaline to acidic processes. The treatment could not keep pace. The investment would now improve treatment by changing the retention time, chemical dosing and aeration of effluents.

But the pollution did not go away. Farmers reported the water was as bad as ever.

In 2007, at their request, my colleagues returned. More samples were collected, checked and analyzed. The pollutants remained, as did the bypass system.

Worse, since the town's drainage had not kept up with its industrial growth, much of the waste did not make it to the plants for treatment.

The furious farmers took the matter to court.

In April, the high court ruled in their favor. It asked government to set up water-flow meters in every industry to measure discharge; to shut down illegal units not connected to the effluent plants; to set up another common effluent plant for the waste for the new industries and, in all, to ensure all waste was treated completely.

It was no small victory.

But pollution continues. The problem is more complex than current pollution textbooks can fathom or explain.

This is a region where the river has no water for most of the year. Even partially-treated effluents — assuming the upgraded treatment plants meet discharge standards and no waste is bypassed — lead to pollution, because there is no water to flush it with or to clean it.

The farmers' association called us again. This time, my colleagues used a testing kit in the presence of farmers and industry representatives. The bypass was found. The samples showed toxins.

All hell broke loose.

At a public meeting, held in Pali town hall, politicians, administrators, industry and affected farmers came together to say, "Industry is important but not at the cost of pollution of our river and the suffering of farmers. Enough is enough. The answers will have to be found differently."

The farmers do not want industry to discharge effluents into



*The polluted River Bandi at Pali, India (Photo courtesy Government of India)*

the river. They want them to treat, reuse and recycle the effluents.

The court has upheld this plea, directing "the treated water may not flow into the Bandi River."

This is not an isolated instance. We have found at least three more court decisions insisting on "zero discharge or complete recovery and reuse of water discharged from factories."

One is in a town neighboring Pali itself, called Balotra, where a similar case was fought and won.

The second is in the textile town of Tiruppur, in Tamil Nadu, where affected farmers took the issue to court which directed, in no uncertain terms, that no treated water would be discharged into the river.

The third is in the industrial town of Ludhiana, in the state of Punjab, where the court has issued notices that "all electroplating, textile dyeing and bleaching units have to set up individual or collective treatment plants to achieve zero-discharge."

The question now is to determine the next step in this pollution ladder and, if that at all,

leads to results.

The fact is re-use technologies like reverse osmosis are expensive, they need high quality water as their input and, most importantly, leave behind a high amount of 'reject,' which then has to be disposed off, somehow. In Tiruppur, the government is currently coming up with bizarre proposals to deal with the tedious reject problem.

But the quest continues.

The fact is that, today, public pressure is driving industry and government to innovate (faster than they would like to) to find solutions. Also, we have not even scratched the surface in finding appropriate and cost-effective technology solutions that will fit.

The search is on.

The farmers of Pali, Balotra, Tiruppur and other pollution warriors will ensure we get answers.

*Dr. Sunita Narain is director of the Centre for Science and Environment in New Delhi. Narain was awarded the Stockholm Water Prize in 2005. Contact: [feed-back@cseindia.org](mailto:feed-back@cseindia.org).*



# Youth Embarrassed at Poland Climate Talks

Youth Embarrassed by U.S. Delegates at International Summit

By Environment News Service  
Via EnvironmentalNewsNetwork.org

OZNAN, Poland (December 4) — The U.S. climate delegation's "sidestepping and recalcitrance" in a news conference on the opening morning of the United Nations annual climate conference in Poznan was denounced by the international climate campaign 350.org and a group of young people from the United States who were attending the meetings.

Lead U.S. negotiator, Ambassador Harlan Watson, representing the outgoing administration of President George W. Bush, dodged reporters' questions about whether or not the United States would commit to emissions targets or funding for developing countries to address global warming.

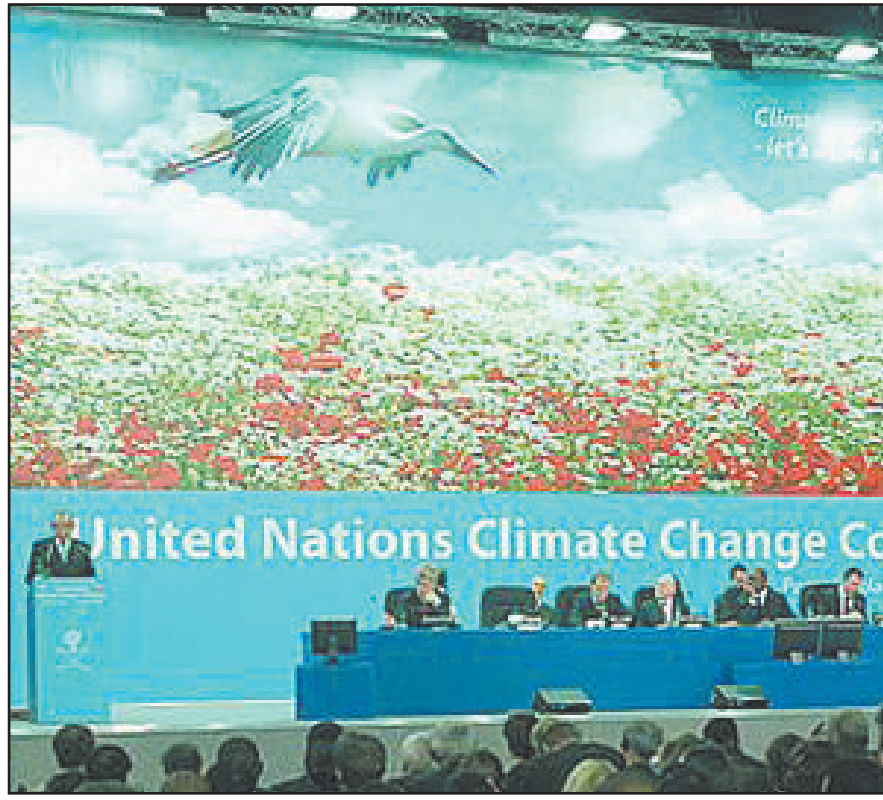
"It's an embarrassment," said Jamie Henn, 350.org co-founder and a U.S. youth delegate. "With the election of Barack Obama we showed the world we were ready to commit to real action on climate change. All this lame-duck delegation is offering is more of the same."

Henn asked delegates from other countries to ignore the current U.S. delegation and focus on the next administration's commitments.

"Thanks in large part to the work of young people across the United States, President-elect Obama has committed the U.S. to 80 percent cuts in carbon by 2050," Henn said. "That's the type of serious action scientists are saying is necessary to stabilize atmospheric CO<sub>2</sub> at the safe upper limit of 350 parts per million."

The figure 350 in the organization's name is the safe upper limit of carbon dioxide (CO<sub>2</sub>) in the atmosphere in parts per million. Led by author Bill McKibben and a staff of young organizers from around the world, 350.org partners with more than 100 organizations to push for a strong international climate treaty that meets the 350 ppm target.

Twenty young people from the United States are attending the Poland climate meetings, representing every region of the country and youth organizations like the Energy Action Coalition and SustainUS.



The opening day of the UN's annual climate conference in Poland attracted close to 11,000 people. (Photo courtesy UNFCCC)

"As youth representatives of the United States, we're working with other young people from around the world here in Poland," said Jeremy Osborn, a 24-year-old from Connecticut. "It's time for our government to do the same. If we can all get along and work together, so can they."

U.S. youth pledged to keep up the pressure after the conference concluded on December 12<sup>th</sup>. "In the next year we are planning everything from a **10,000 person youth climate conference in [Washington] D.C. this February to an international day of action next October,**" Henn said. "This is just the beginning."

The two-week meeting, the 14<sup>th</sup> Conference of the 192 Parties to the United Nations Framework Convention on Climate Change, UNFCCC, and the fourth meeting of the 183 Parties to the Kyoto Protocol, is the half-way mark in the negotiations on an ambitious and effective international response to climate change. The deal is to be clinched in Copenhagen at the end of 2009 and will take effect in 2013, the year after the first phase of the Kyoto Protocol expires.

Close to 11,000 participants, including government delegates from 186 Parties to the UNFCCC and representatives from

business and industry, environmental organizations and research institutions, attended the two-week gathering.

Polish Prime Minister Donald Tusk, opening the meeting, pointed to the urgent need for progress at Poznan. "Scientists share the view that warming in excess of two degrees Celsius will result in irreversible changes to nearly all ecosystems and the human communities. We shoulder the responsibility to prevent changes that could lastingly disturb the symbiosis between humankind and nature," he said.

Professor Maciej Nowicki, Polish Minister of the Environment and President of the Conference, warned that the planet has reached the limits of its confined system and that a "business as usual" scenario is not an option.

"Huge droughts and floods, cyclones with increasingly more destructive power, tropical disease pandemics, a dramatic decline of biodiversity — all these can cause social or even armed conflicts and migration of populations at an unprecedented scale," he warned.

In Poland, ministers and other delegates discussed their vision for long-term cooperative action on climate change. In Poznan, ministers had their first opportunity

to discuss a "shared vision for long term cooperative action."

One of the key questions was what kind of mechanisms need to be put in place to deliver on finance, technology and capacity-building to help developing countries curb emissions, spur green growth and to cope with the inevitable impacts of climate change.

During 2008, Parties submitted proposals and ideas for stronger climate change action. The more than 700 pages of proposals were distilled into a single document of 82 pages, which governments can now refine further in light of what they want to negotiate in 2009.

"The fact that there is a text on the table offers governments the first real opportunity of moving beyond the phase of exchanging ideas into one where they will be expressing their position on specific proposals," said Luiz Figueiredo Machado, chair of the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention. "I am looking forward to see how this text will be fine-tuned in the course of the meeting."

In 2007, Parties agreed to consider a greenhouse gas emission reduction range of minus 25 to minus 40 per cent over 1990 levels, a range which could be confirmed at Poznan.

Addressing the delegates in Poznan, Yvo de Boer, executive secretary of the UNFCCC, pointed to the need to achieve progress on issues which are important in the short run — up to the end of 2012 — including adaptation, finance, technology and reducing emissions from deforestation and forest degradation.

"The conference needs to deliver on on-going issues, especially issues that are important to developing countries," he said. "And there is huge pressure on available time up to Copenhagen in 2009," he said. "So next to on-going work, the conference also needs to lay a solid foundation for an ambitious climate change deal at Copenhagen."

Alluding to the financial and economic crisis and the opportunities of green and sustainable economic growth, de Boer, who is the UN's top climate change official, called on delegates to "increasingly focus on how the climate change regime could become self-financing and to link climate change policies to economic recovery."

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Environment News Service

## Counter-Recruiter Seeks to Block Students' Data from Military

By Javier C. Hernandez  
The New York Times

October 23 (excerpt) — Barbara G. Harris, 72, looked her troops in the eye. Staring out at mohawks on one side of the room, salt-white bobs on the other, she said in her delicately firm way: "Hold your ground. You have every right to stand there and if anyone tells you differently, tell them your rights."

A retired teacher and longtime peace advocate, Ms. Harris is tutoring 20 new enlistees in the art of "counter-recruitment," her personal crusade to block recruiters for the United States military from contacting New York City high school students.

She had assembled the group in her war room, a space near Union Square lent by a sympathetic organization, where plants and antiwar signs line the walls, in preparation for a blitz Thursday evening at parent-teacher conferences, where Ms. Harris and the others plan to stand on sidewalks outside school buildings armed with opt-out forms and their best sales pitches.

"You don't have a whole lot of time — that's the point," Ms. Harris told the volunteers, who ranged in age from college students to the Granny Peace Brigade, a New York group of older women started in 2005 to protest the Iraq war. "Don't be frustrated by that. They do stop."

Ms. Harris's efforts this week come as the Department of Education is facing renewed criticism from the New York Civil Liberties Union on the issue of military recruitment, after changing its policy in September to allow recruiters to get data about high school students from a central office. In the past, recruiters had to go from school to school to get names, addresses and phone numbers for students.

Federal law requires that schools provide the military the same access as colleges and other prospective employers. Parents are allowed to block access to a child's information by signing an opt-out form . . .



## Army Recruiters Open War 'Experience' Arcade to Attract Youngsters

By Jim Hightower  
Alternet.org

December 5 — From football to beach volleyball, competitive games can get your juices going.

But the ultimate game, the one that'll give you the greatest rush, is . . . what? Why, it's war, of course. Yeah, man, you literally get to kill the other team! How great is that?

Such thinking (if it can be called thinking) is behind the latest leap in marketing by the U.S. Army.

In its constant effort to lure young people into the killing business, the office of military recruitment has come up with a whiz bang showcase to appeal to a generation that's been raised on computer games and that hangs out at the mall a lot. It's called the "Army Experience Center," and the first one has opened right across from the Dave & Busters food and fun outlet in a mall in northeast Philadelphia.

With more than 14,000 square feet of prime mall space, the experience center is bigger than three basketball courts and is filled with lots of dazzle.

There are nearly 80 video gaming stations, all sorts of interactive exhibits, a replica command-and-control center, and — best of all — a bunch of high-tech simulators that let the kids get a feel for the military action of, say, a Black Hawk helicopter.

The simulators are way cool. For example, youngsters can sit in a model chopper with a simulator that makes it seem as though they're ripping right over a mountain village, and — get this — they get the thrill of shooting at enemies in the village!

Yes, the virtual thrill of the kill coming to a mall near you. And, indeed, the army says it hopes to replicate the experience all across the country.

One enthusiastic Army general says that the center is "a learning laboratory." Yeah, but . . . do we really want youngsters learning that stuff? Not to worry, say the recruiters, for the Army does have rules — for example, while the "laboratory" is open to all ages, kids can't play the video games until they're 13.

No toddlers allowed.



Jim Hightower is the author of *Thieves In High Places: They've Stolen Our Country and It's Time to Take It Back*. His latest book, *Swim Against the Current: Even a Dead Fish Can Go With the Flow* is available in paperback. [www.jimhightower.com](http://www.jimhightower.com). Reprinted with permission.

[Note from the Editor: We put this story in because it's so horrifying. I hope you see that point and will do everything in your power to protect young people from military recruiters and war malls.]



# EnviroCenter Works For a Sustainable, Green Economy



The public was invited to visit the EnviroCenter in Jessup MD on December 2 to learn about "Building a Green Economy." Executive Director David Woolley-Wilson (right) gave "The Order of the Earth" a special tour. This side view of the building showing photovoltaic and thermal solar panels, which provide electricity and heat. The gray siding is recycled asphalt shingles. Photo by Iona



David Wooley-Wilson, executive director of The EnviroCenter, points out the difference in temperature on a cold, cold day in November. The dials on the outer thermometer and the inner one differed by nearly 20 degrees, due simply to an air blanket between the cinder block and the double-layered glass panels. David promotes educational projects in the million-dollar building. Photo by Iona



The beautiful and warm "wood" floor that you see is really bamboo, a fast-growing, natural substitute for trees. The Green Building Institute includes designers, installers and construction experts who think "green." The patch on the bottom right covers the date. Photo supplied by the Green Building Institute



Small solar collectors move with the sun. This is one of the latest designs in capturing the sun's light and transferring it to the inside of the building through fiber optics. Green building is the practice of increasing the efficiency with which buildings use and harvest energy, water and materials. Photo by Iona



This countertop is made from sunflower seeds mixed with resins to create a durable structure. The core on the left shows how the original board looked. The Green Building Institute offers programs teaching ways a green approach is better for the wallet, health and the environment. Photo by Iona



This sturdy beam was made from recycled plywood veneers. Serving the Northern Virginia, D.C. and Maryland regions, the Green Building Institute is a non-profit organization which educates the public as well as building and design professionals about sustainable building practices and technologies. Photo by Iona



Staff and guests drink filtered water in real glasses, not disposable ones. This symbolizes the attitude which guides the Green Building Institute. Making the transition to a green world necessitates education in all aspects of living with the environment in mind at all times, even when drinking water. Photo by Iona



Nothing goes to waste here. Rainwater from the roof is collected and drips into Rain Boxes (see also rain barrel story on page 14). Then it travels through special irrigation tubes to water plants in the garden or pots. Photo supplied by GBI



# The Wondrous Worm

## The Earthworm: Our Soil's Silent Superhero

By Mare Cromwell  
Baltimore, Maryland

Earthworms are rather lovable creatures. As a professional gardener I often dig up one of these squirming creatures. Whenever this happens, I tenderly pick it up and put it to the side where it won't get hit. It pains me terribly whenever I injure a worm.

Surely it bewilders the worm to be airborne and then returned to another spot instead of being chomped by a predator. The thought What does this worm think about this safe airlift? has flitted through my mind several times. Then again, do worms think?

While it's hard to say what or if worms think, one thing I am certain of is that one less worm means one less friend working on my side enhancing the garden soil. While we plant and fertilize and croon over our plants thinking that our efforts are what contribute to our garden's fecundity, it's actually the earthworms' methodical work underground that is key. Their digestion of detritus under the surface feeds and aerates the soil to provide the most optimal conditions for plant growth.

Research has shown that the garden beds where earthworms are the most prolific are where plants flourish the most. It turns out that worm castings, which are the little mounds of balled up soil outside worm holes, are very microbially active and high in plant-growth hormones along with exchangeable calcium, potassium and available phosphorus. Good food, indeed, for the plants.

Adding earthworm castings to plants has been shown to double the yield of the plants while controlling insects. People have always believed that dogs are "man's best friend;" however, I've come to realize that worms are my best friend. (Please don't tell my cats.)

A knowledgeable gardener friend advised me last fall that if I really wanted to boost my soil, I should get earthworm cocoons and spread them throughout the garden. So I excitedly got on-line and requested six packages of earthworm cocoons. The cocoons would be shipped out months later in early spring and I would be billed then. I loved the idea that baby worms were going to be traveling across the country (not on their own power) to help me with my garden.

Well, I waited and waited and the cocoons never came. By mid-May I was notified that the supply was exhausted and my order was coming. Apparently I was not the only one who had learned of the value of worms.

However, by that time I had discovered my own supply of worms in my compost pile. It was like finding gold. I turned the pile in early May and they were writhing all over the broken eggshells, partially decomposed corncobs and rich dark earth, happy as — well — worms in the compost pile. I promptly distributed many of them throughout my beds in hopes that they would go forth and multiply which they did, kind of. (They did not need to read the

Scriptures to know how to do that, I hoped.)

Then I learned that the worms that I would have received in the mail along with the ones in my compost pile were not necessarily the ones that could tough it out in my not-so-fantastic garden soil.

Those catalog and compost worms are called red wigglers (*Eisenia fetida*) and they thrive in highly-rich places such as leaf litter, manure, compost piles and worm bins. What I really wanted were the gray-toned night-crawlers (*Lumbricus terrestris*), which are larger than red wigglers and burrow deeper down into the soil.

Nightcrawlers are the real tillers of the soil in the worm world. They digest both soil and plant matter and are the ones aerating the soil and creating channels deeper down that roots can follow.

Unfortunately catalogs don't sell nightcrawler cocoons. The only really effective way to get those types of worms is to dig up a thatch of sod impregnated with them and plant it in the garden. But I have yet to find a source of such thatch. However I can amend my garden bed with manure and chopped leaves to invite them in from the surrounding lawn. This is my current strategy.

### Earthworm-Collecting Competition

There is another way to collect nightcrawlers. As a matter of fact there is an annual earthworm-collecting competition in Nantwich, England every summer. Called the Earthworm Charming Competition, it's a cross between Halloween and a strange ritualistic sod-stomping and soil-piercing ceremony.

People dress up in a wide variety of costumes and are assigned a specific plot of lawn in a park, three meters by three meters, and given half an hour to collect worms.

The catch is that the contestants are not allowed to dig the worms up. They have to "charm" the worms into surfacing.

I discovered a video about the event on Youtube (keywords "earth worm charming") and it's hilarious. It's also not a joke. Colorfully dressed Brits collect hundreds of worms in thirty minutes after vigorously vibrating the soil so that the worms are compelled to emerge from the soil. The people rub a stick across pitchfork tines, drum on the sod, rub a stake punched into the ground or find other ways to stomp or vibrate the ground.

It turns out that most of the reverberations produced create a pitch similar to that of a mole, one of the worm's most-feared predators; hence, the worms evacuate to the top of the soil.

Maybe I need to fly to England to sneak out some of the captive worms at the end of the competition.

Apparently fishermen in Florida use a similar technique, although they call it Earthworm Grunting (the vibrating stick in the ground sounds like a grunt), to collect worms for fishing. I guess I don't need to fly as far to collect. It does make me wonder whether carrying earthworms onto a plane would be considered a terrorist threat. I can see the headlines now: "Pilots Desert Cockpit Due to Earthworm Invasion." I haven't gone through

security with the slimy annelids yet so I can't say.

### Can Cut Worms Live?

For years I believed the old wives' tale that if you inadvertently sliced a worm in two, it was fine since they grow back anyway and thus there would be two worms and not just one.

But then I heard a soil scientist dispel that myth by explaining that it depended on where you cut the worm. If you've cut them below their thicker, lighter-colored section called the saddle (or clitellum) then most of them can regenerate a new tail. However, if they're sliced above it, then they're less likely to survive since their key organs — the FIVE hearts and digestive system — have been destroyed. All the more reason to weed gently in beds and evacuate worms to safer zones.

This does beg the question that if a worm has five hearts

containing the fertilized eggs inside, called cocoons, that I was awaiting for from the delivery-man all spring.

The incubation period can last days or weeks depending on the species. There are close to 3,000 earthworm species around the world, thus it varies widely. In case of severe drought, some species are capable of keeping the sperm and eggs separate to wait to fertilize later under more optimal moist conditions (even up to six months later), which is quite a biological feat.

### Water-Logged Worms

Other aspects of worm biology are fascinating, too. Worms lack lungs and their entire skin surface acts as their lungs, thus they must maintain a constantly moist body surface for gaseous exchange. But most species cannot "breathe" in highly water-logged soils and that is why we see them exposed on the pave-



*Red Wiggler worms (Eisenia fetida), little saviors of the soil and, therefore of the planet. Photo supplied by Dr. Clive Edwards, Ohio State University.*

ment after heavy rains. They've surfaced to avoid drowning.

When I see them stranded, like mini-mini-extra-mini, skinny whales on the sidewalk, one of my services is to relocate them back to the soil after the rains have ended so they don't dry out and die on the pavement, a sad sight indeed.

Earthworms also possess a gizzard similar to chickens and pigeons where small stone particles that they've ingested are used to help grind up plant detritus. One researcher shared that they are actually consuming the bacteria on the detritus and not simply the plant material.

Worm skin cells are sensitive to light, touch and vibrations, hence the success of the Worm Charmers. Each segment of a worm has very tiny bristles, or setae, that help the worm grip the ground especially when a predator is trying to yank them out. These setae also act as brakes to slow or stop them as they crawl through the soil. They grow by adding on segments each year.

Researchers have determined that as many as one million worms can be found in one acre of land. If I could only be so lucky on my quarter acre lot.

It is also believed that it was because of the prolific populations of earthworms in the Nile Valley, Mesopotamia and parts of India that those soils were so rich and hence supported the development of these early, sophisticated civilizations. People think that it was slaves who built the Great Pyramids. It was actually on the efforts (rear-ends) of those splendiferous worms that Egyptians were able to achieve such stupendous architectural advancements.

One little-known fact about worms is that the last Ice Age in

and they break one, is it easier for them to recover than us one-hearted creatures?

### Love Life

Ah ... a worm in love ... the thought of it. Romantic French worm cafés with plates of chopped radish leaves and worms entwining their sinuous bodies around the table legs and each other. Soft music from the wandering worm minstrel playing — I'm not sure what. They don't have arms with which to play music. But this does raise the question of how baby worms come to be, hearts broken or not.

Again, another myth dispelled. I had always thought that when worms are labeled 'hermaphroditic,' this meant that they produce eggs and sperm within themselves and don't need another worm to be fertilized. Not so. Yes, they do produce both sperm and eggs and are justifiably hermaphroditic. But they cannot fertilize themselves and actually need to exchange sperm with a fellow worm in order to have fertilized eggs. This they do with a nightly (they are nocturnal creatures) wormy courtship ritual of partially stretching from their hole into another's hole and "feeling each other out."

When they finally realize that the other is okay (it can take several nights of fore-slide), then they shift their saddles (clitellums) next to each other and ooze out a great deal of mucus together and in the process swap sperm. Next they retreat to their individual tunnels and a tissue forms around each worm that is the sac of sperm and eggs. This donut of tissue is then slid off and sealed whereupon fertilization occurs.

Next the babies within begin to incubate. It's the shed tissue

North America wiped out most of the continent's native worms. The worms that we find in our soils, especially in the northern United States and Canada, are invaders from Europe brought in with potted plants, manure and debris from colonists' ships.

### Draw-Backs

Unfortunately these squirmy newcomers have wreaked havoc on northern forest ecosystems that do not naturally have worms and instead have relied on slower-acting leaf litter detritivores. Entire forest floor communities in Minnesota are being wiped out due to the introduction of worms and their voracious appetites for leaf litter that used to support spring flowers and tree seedling germination. Many of the worms were introduced locally by fishermen who dumped excess bait on the ground, plus nearby agriculture.

Alas, we cannot say that earthworms are always as beneficial as we hoped.

### Worms Eat at McDonald's

On the other hand, worms are being used to digest biosolids (the heavier waste from sewage treatment plants) and break down PCBs in the soil — by supporting greater microorganism populations. Clive Edwards, a worm specialist at Ohio State University, recently consulted with 260 McDonalds in Hong Kong to advise them on setting up vermiculture systems (worm composting using red wigglers) since access to landfills is not an easy option in that tiny, dense region.

The worms can digest all the paper and vegetable waste quite well (think hamburger buns and French fries and old salads). Dr. Edwards commented that they're seeing great success on the part of the worms and their composting abilities. The challenge lies in training humans not to drop the plastic utensils and other non-compostable items into the compost bins in the stores. If only Homo sapiens were so easy to train.

Which brings us back to that intelligence question again. How many brain cells does it take for a worm to be aware that it's been airlifted? How many cells does it take for a human to separate the plastic utensils from fast food waste? Maybe only the worm knows the answer to these questions. Or better yet, the worm will have the final answer.

*Mare Cromwell's first book, If I gave you God's phone number ... Searching for Spirituality in America, came out in 2002. She is working on her second one. Mare leads All Our Relations Sacred Gardening Workshops. www.sacreddogllc.com.*

### Worm Composting

Worm composting or vermiculture is an excellent and easy way to cut down on waste and create fertilizer at home. *Resources:*

- **Worms Eat My Garbage: How to Setup & Maintain a Vermicomposting System** by Mary Appelhof, available at [www.worm-woman.com](http://www.worm-woman.com). Also this Web site is chock full of excellent information;
- **Composting: A Practical Step by Step Guide** published by Penguin Mini;
- [www.wormcomposting-tips.com](http://www.wormcomposting-tips.com).

*Snow  
Hush — the wintry world  
speaks through buried moss and rock  
love, in its own time.*

*By Terry Darling, Warren, Pennsylvania*



# The Examined Life: On Auld Lang Syne

By Marion Stuenkel  
Madison, Wisconsin

I remember my step-grandma swooping her finger around inside the eggshell to be sure of using every least bit of egg white.

I remember my dad in the old gray sweater he wore all winter long reading by one adequate lamplight.

I remember my mom's opening and shutting curtains and windows to retain the coolness of night and catch any breeze on sultry summer days. How she treasured our tree on the east-facing front of our home and the backyard tree of our neighbor to the south.

I remember that my great, great grandmother was said to make the most beautiful corncob fires.

I remember my aunt making lye soap from ash.

I remember my mom hanging clothing on the line showing me how to press and slide my thumb and forefinger around the wet hems of sheets and clothes so they'd dry wrinkle free.

I remember my mother telling me stories. I especially loved the one about her grandfather and the mules.

Gramps was temperamental. He had mules just like him. One day he decided to try yet another means of control, which was to bridle them with a harsh bit called a "Jawbreaker."

Once up on the wagon, he slapped the reins, yelled, "giddy up" and off those restive mules went, across the barnyard and bolted into the field.

What a wild ride! The wagon hit the glacial rocks which emerged each spring and bounced Gramps up in the air to land back on the seat with a tail-bone-jarring thud. Those mules had those bits in their teeth and were running mad.

Then one wheel only would hit a rock so Gramps would hang on as the wagon tipped into a furrow. My mom said Gramps looked like a piece of popcorn or a drop of water on a hot skillet.

His shouts of, "Whoa" brought the whole family and hired hand out to watch, but the mules paid no attention to him.

Gramps got a grip on himself. He put into practice the timeless strategy for handling runaways. He tightened the rein to one side, not a lot, just enough and the mules began imperceptibly at first to turn. At the top of the circle he tightened the rein on the one side a bit more and the mules slowed some. And

so it went till the mules shuddered to a halt. Gramps, shoulders bowed — an unusual sight — offered thanks for safe deliverance for himself, his mules and his wagon.

Socrates wrote, "... The unexamined life is not worth living..." Ever since I read that it would take an estimated two and one half planets for everyone on earth to live as I did, I have been working to use less. My New Year's Resolutions for most of a decade have included meeting or bettering the most conservative of the individual Kyoto compliance estimates necessary to reduce global warming.

I gave up my car in January 2001, walked to work and market and took the bus wherever I could to get anywhere else I was going. My parents conserved heat and light and refused air conditioning as wasteful so home reduction of carbon use is habitual.

Where I've failed is trips. A few years ago I swore stability like medieval monks used to do. Even swearing I had an exception in the annual trip I take with my eldest grandson to a state park in Illinois. But there are friends and family who want and sometimes depend on me to be there for them and company that expects to go places.

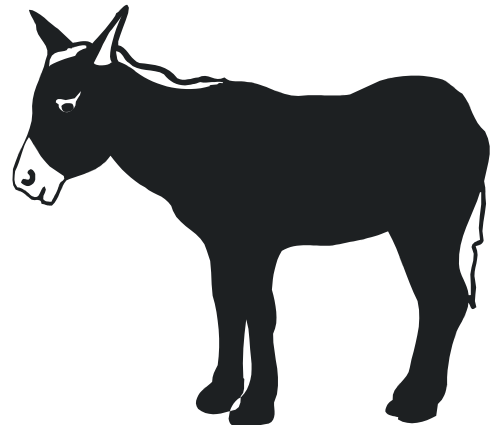
It is not enough for me to quit cold turkey. I've got to deal with the mindset and I'm not isolated. It would be so much easier if I were all alone.

This New Year I am making a resolution to tighten my rein on one side, bringing my out-of-control, carbon consumption to a halt is apparently not a linear, rather a fractal equation. Just saying, "Whoa," even in my outside voice is too simple.

It hasn't worked. It may be a stretch to apply Gramps and his runaway mules as the metaphor to bring my runaway energy addiction to a halt. But I do feel tossed about, having a rough ride, the fault for which is too much, and yet not all, my own.

Friends and family are watching my plight. I want to be like Gramps and model handling runaways. I must be careful not to drop the rein and, oh, please don't let it break until we've come safely around, like Gramps a long time since.

**Marion Stuenkel is a Kyoto-compliant, anti-nuclear activist modeling simple living for her grandchildren, practicing intentional income-reduction-war-tax-resistance, and eating local food.**



# Alternative Automobiles

## Why Are We Still Using Gasoline Driven Vehicles?

By Al Fry  
Garden Valley, Idaho



Al Fry's favorite car — French-manufactured Citroen 2CVs. His present one has a whopping 29 horsepower motor and is able to cope with higher speeds better than previous models. Photo supplied by Al Fry

In today's age of planned obsolescence and flashy competition, the thought of keeping automobiles over half a century is a dying tradition. As times get tougher perhaps we should look back on some earlier 'maverick' car designs that could serve as examples of more sane transportation. Some of the early American autos were simply amazing.

My father had an altered '29 Dodge that ran around every summer until the '60s. Across the water, the Brits had their unstoppable Trojan Utility cars that lumbered along on ten horsepower all through the '20s and '30s. Their huge fly-wheel drove their wheels without any of the usual gears. They got along quite well with solid rubber tires due to their unique springing design.

It wasn't until the later French 2CV Citroens came out in the '50s, that cars had the ability to just float over the bumps. These later ten-horsepower 'poor-people's cars' were such a surprise success that they usually had to put out several hundred a day just to keep up with demand. Many Frenchmen simply ignored later, more modern bodies in favor of this 'ugly duckling-beetle' design. Over 50 million were sold before its huge popularity declined and the Volkswagon Beetle design grew more popular.

I owned two of these wonderful little machines and am still driving one.

Various mini cars have been tried in the U.S. with little success.

The Bantam minis of the '30s were a durable example that sold for less than \$500. Unfortunately, times were tough and it was too tough to compete with the larger Fords and Chevies.

I remember going to movie drive-ins in a friend's Crosley but this little mini's engine didn't hold up well enough to give the larger brethren a run for their money.

A number of early ATVs and mini cars used tiny industrial engines with mediocre success. The King Midget produced around 5,000 units between 1947 and 1969. It could squeeze up to 85 miles per gallon from its tiny motor. Under today's complex federal performance standards it would never be allowed on the road... Yet some states are beginning to let the new breed of larger ATVs on the back roads... once equipped with proper lighting and a license.

With higher and higher speeds required on most highways, the days of the small horsepower minis are probably gone forever.

Are there any alternatives?

Oh, yes! Around the turn of the century, a lot of air-powered railroad engines and mini cars existed. Dozens of patents later refined the concept down to reasonable efficiency in autos. The earlier pistons got replaced with turbines and closed-cycle systems. This evidently bothered the corporate oil/fuel empires enough to put heavy pressure on the experimenters and builders.

A typical design that used air pump-

ing shock absorbers to increase efficiency is found in Pat. #3847058. And one using an auto engine in #4292804.

STEAM CARS were around for a time but the start-up time was too slow to keep them competing with their internal combustion brethren. Doble developed an upgraded design that solved the usual problems but it was too expensive to sell during the great depression. Newer designs with turbines, flash boilers and even better mileage, got nowhere. The Lear models that worked perfectly later got completely rejected by the entrenched fuel moguls — who outwardly professed an interest in alternative systems and fuels.

ELECTRIC CARS have seemingly been crippled by the battery shortcomings and expenses; their potential has hardly been tapped however. I recall an inventor I knew who simply wired up several alternators to his home-made design... and produced all the juice he required once up to 20 miles per hour.

General Motors put out a good-looking electric that leasees loved. Then they rounded them all up and scrapped them. This of course was the same outfit that sold thousands of buses to Los Angeles

and similar cities after pressuring the corrupt politicians to get rid of the cheap, reliable electric trolley-car systems.

EXOTIC FUELS & FUEL MIXTURES could fill a whole book. One example was the simple ultrasonic vibration devices some experimenters used to

run engines on 15% water. The water-gas emulsion let the water mist explode into super-heated steam.

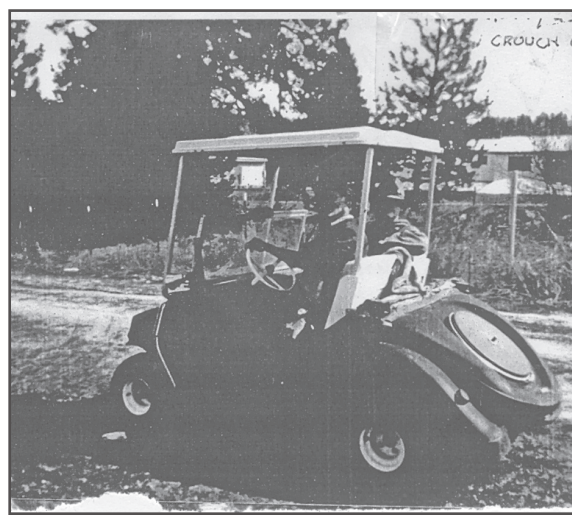
Any combustible will usually explode when in a dust form — and given a spark. Engines have run on flour and powdered sugar.

The idea we are stuck with our oil-based locomotion systems is a cruel joke on us. We are little more than pawns.

Even numerous high-efficiency drive systems could easily upgrade the usual auto drive systems. Several inventors have simply attached hydraulic aircraft pumps to their vehicle's wheels and tripled their efficiency. These closed-system hydraulic cars needed little more than lawn-mower engines to propel them.

I just bought another French Citroen 2CV that gets about 50 miles per gallon. It's easy to fix and get parts for since there have been 5 million produced in Europe. It can go 60 miles per hour and holds up better than most of the cars that are three times as expensive. Most Americans want the bigger, flashier gas guzzlers so that's what they're stuck with. 2CV importers are found in Hemmings Motor News at many magazine racks.

Want to go on with the story? Just let me know.



Al Fry running around his rural village in a converted golf cart which gets 100 miles per gallon. You are looking at a Bantam Roadster body on a traditional gas golf cart. Photo supplied by Al Fry

# American Chestnut

(Continued from page 3)

ducing American Chestnut trees at Rimrock is one more reason to protect it for scientific study.

Yes, the American Chestnut trees need to be further studied and protected, for sure, but there are other compelling reasons to protect Rimrock in the ANF for our future generations to enjoy.

If you are ever in Northwestern Pennsylvania, be sure to visit the only National Forest in our state and make a point to visit the Rimrock Scenic Overlook in the Allegheny National Forest. And keep an eye out for an American Chestnut and a Small Whorled Pogonia!

John Stoneman is somewhat of an outdoor photographer, outdoor writer, hiking guide and a self-employed luthier living in Bradford, Pennsylvania. (Ed.: A luthier is a builder of stringed instruments, but the rest is even more interesting; keep reading.) John is a hiker, camper, mountain-biker, backpacker, long-distance swimmer, surfer, water-skier, scuba diver, naturist, canoeist, sailor, tracker, wildlife photographer, caver, climber, rappeller and a former sports-car-rally driver, sports-car-rally navigator, sports-car off-road racer, off-road motorcycle racer, ), bicycle racer, long-distance bicycle tourer, professional musician, white-water rafting guide and a free-lance writer, among other things!



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# Rattlesnakes & Hope

Reg Darling  
Warren, Pennsylvania

On the point formed by the confluence of Bobb's Creek with the Tionesta, where Forest Road 116 meets Route 666 in Allegheny National Forest, the forest is slowly reclaiming a clearing. My great-grandfather's house once stood in that clearing. All that remains are a few foundation stones, an area near a back corner littered with shards of old glass and crockery, a dying apple tree and the daffodils that bloom each spring.

Deer feed in the clearing — two well-worn trails enter from the back edge. I'm sure it's an evening place. In the last hours of daylight, a falling thermal will pour off the hill and flow down the Tionesta Valley with a power and reliability stronger than even the prevailing wind.

I built a blind of sticks to supplement a screen of grapevines just downhill from a place where a multitude of hoof prints pointing in every direction indicates that this is where ever-cautious deer pause to look, listen and smell before venturing into the open space of the meadow. I was sure it would be a good place to hide with my longbow in the last hours of autumn days, hoping for luck and meat.

There are plenty of potential deer ambushes half this distance from home but I am drawn to hunt here by something more than a hunter's intuition and strategy. Just as certain aspects of my writing complete a circle that began with my great-grandfather's journal, the idea of taking sustenance from this place seems ceremonially appropriate. I walk back to my truck savoring a newfound eagerness for fall and hence for winter.

bureaucratise that the trees had been cut down for scenic purposes.

Among the circle of friends I hike, hunt and wander with it became sarcastically known as "The Pristine Meadow." But I must admit that it does summon my attention because hawks often hunt there. Passing The Pristine Meadow, my alertness rises as the glances I can steal from driving while rounding the broad curve search for the flight or silhouette of raptors — usually red tails, but occasionally a Cooper's hawk.

Today my attention was pulled away from the hope of feathered grace by the pickup towing an ATV-bearing trailer that suddenly swerved, braked and pulled over ahead of me. Seeing a dark, sinuous form by the roadside, I did likewise.

The driver exited his truck with two young boys whose ages I would guess as three and five. The boys started to rush ahead of the man and I spoke up, "Stay back; that's a rattlesnake." They stopped, wide-eyed. It was a black phase timber rattler — a big one.

Rattlesnakes, like bears, are formidable creatures whose powerful presence tends to inflate our impression of their size. All bears tend to be four-hundred pounders and all rattlesnakes tend to be five-feet long, but this was indeed a big snake. I'd guess 45 inches, maybe more. I tried to gauge him against more immediate and tangible measurements. He was bigger around at the middle than my forearm and a little more than the width of my chest longer than my arm.

The man said to his boys, "Look at the pattern in his skin. Isn't he beautiful?" Then he turned to me and said, "I've lived around here all my life and this is the first rattlesnake I've ever seen."



Three Friends of Rimrock enjoying a winter snowfall in the Allegheny National Forest in Pennsylvania. (left to right) John Stoneman (see American Chestnut story on page 3), Bill Belitskis and author Reg Darling. Photo by Terry Darling

But on the drive home, my thoughts wandered far away from the ceremonial and the sublime into the roughshod realm of politics, bureaucracy and the uncertain future of the forest I love. It doesn't look good and that's not just a matter of the details of the new forest plan the Allegheny National Forest was in the process of drafting, of the ugly fact that even-aged management, herbicides and oil wells are likely to prevail.

I'm worried. As I push on into the final quarter of my sixth decade on Earth, the local newspaper's obituaries show a steady parade younger than me and one favorite place after another is eaten by chainsaws, bulldozers and drilling rigs; I need a little honest hope. It makes me a better dinner guest and it's easier on my liver.

These Allegheny hills harbor many special, wild, beautiful places that I have loved and shared, that I have given to my son and others as they were given to me by mentors, dear friends and the chance encounters of my wandering. The wildness of those places has helped us all through difficult times of self-discovery and loss. Its resonance in our hearts defines our sense of home. The current wave of rampant oil drilling and logging wounds our hearts and souls.

I don't like it when a day of enthrallment with small and large forest wonders collapses into a funk of depression, fear and loss. It makes me feel like a fool and it pisses me off. That's not a sound basis for effective activism or self-indulgent denial and frankly I find great comfort in both.

The motion of a grouse scurrying into roadside brush summoned my attention back to the here and now of driving a narrow dirt road through a long-loved forest. I shook off poignancy and pessimism in favor of a present filled with leaf-filtered sunlight.

On the west side of a broad bend in the road not far north of Heart's Content there is a clearing that is slowly returning to forest, as meadows around here do if they're not maintained by humans or beavers. When it was first hacked out of the roadside forest a wooden sign explained in Forest-Service-newspeak

"They're scarce, but they're also a lot better at avoiding us than we are at avoiding them," I replied.

Another vehicle came along in the opposite direction and pulled over. The driver said, "Wow! I moved here from Texas twenty years ago and I haven't seen a rattlesnake in a long time." His voice was resonant with nostalgia and reverence. "I sure hope he doesn't get run over."

I said, "Yeah, it's tempting to try to herd him off the road but I'm afraid anything we try to do might backfire."

He was a polite snake. He didn't coil or rattle as I approached but merely raised his head off the ground to look at me. To speak of a facial expression on a snake would be an unforgivable anthropomorphic stretch but I've seen that look of implacable formidability before and its meaning is crystal clear.

I kept a distance far beyond safe — respectful, I hope.

I refer to the snake as "he" because I dislike the grammatically correct "it" that refers to living creatures with the same pronoun used for hammers, beer cans, boots and cars. While I'm well aware of the valid issues swirling around the use of gender-specific pronouns, I would rather refer to a rattlesnake through the empathic identification of my own gender than depersonalize him or her into an object. This particular rattlesnake may well have been a she — there is no truth to the common folk belief that all black phase timber rattlesnakes are male. But this was a specific, particular being with his own life, history and future, not an object or an abstraction. If he (or she) had a name known to me, I would use it.

We all returned to our vehicles. As I slipped back into the solitary thought stream of driving, I recalled the many occasions I had walked long distances through knee-high ferns, unable to see my feet, in that rattlesnake's territory. I thought of the times I had sensed the presence of snakes without being sure if I was partaking of Pleistocene instinctive awareness or merely subconscious remnants of childhood angst.

(Continued on page 12)

# Grasses & Homes

"A grass-blade's no easier to make than an oak."

James Russell Lowell

By Miriam MacGillis

Genesis Farm, Blairstown, New Jersey

A few weeks ago, a group of 22 straw-bale enthusiasts joined us for a workshop on building with baled straw. I am writing this in my home, itself built with this lowly material. It is sheltering me within 18 inch-thick walls of warmth, silence and beauty. I am in awe of this — how countless millions of these simple grasses have been bent, compacted and strung together holding their abundant minerals drawn from the soils.

In a single season they grew from seeds to embryonic grasses into vessels of sunlight and nutrients we call oats. Each solitary blade of grass harnessed energy from the sun day after day. As my mind's eye recalls their golden color, now underneath a coating of stucco and whitewash, I thank each and every one of them for their unspeakable wisdom and adeptness. And I want to share this understanding and the building skills for any one to create their own home from this abundant, local and earth-friendly material.



St. Miriam MacGillis's straw-bale home at Genesis Farm. Photo supplied by Genesis Farm

The moment one gives close attention to anything, even a blade of grass, it becomes a mysterious, awesome, indescribably magnificent world in itself. --Henry Miller



This has been a year of a new focus on grass. At our May Sunday Brunch at the Farm, guest speaker Jerry Brunetti described the innate skill of grasses to sequester carbon from the damaged air and draw it down below the ground into their miles of root hairs. There they interweave themselves with denser soils, creating habitat for billions of microbial life forms which stabilize the soil against erosion and build the essential nutrients for life.

We were dazzled by his descriptions of these modest and humble grasses. They literally hold together the world beneath our feet, yet they barely gain our attention.

Jerry described how a Pennsylvania school district had explored the ecological and economic value of converting their school boilers to burn grass pellets as a source of heat. More broadly, he was laying out the possibilities of a revolution in our way of thinking and living. He was describing one way of overcoming our addiction to fossil fuels and healing the disastrous effect this addiction has had on the entire natural world.

Since his presentation, we have continued to study, research and share the discoveries we have made about the value of planting, harvesting, pelletizing and burning native warm-season grasses, as another sun-based alternative for heating residential and institutional spaces. Grasses emit 88% less carbon than traditional energy sources providing comparable levels of Btus. Moreover, they can be provided by local farmers, year after year, on marginal rather than food-producing soils, in an economically viable way. We are committed to implementing this innovation at Genesis Farm.

Part of what is so moving about grass is its simplicity, modesty and total generosity. At a moment of history not unlike

our own, Henry Wallace, secretary of agriculture and later vice-president under Franklin Roosevelt, had this to say:

*I believe that the quietness and strength of grass should be, must be, permanently*

*a part of our agriculture if this nation is to have the strength it will need in the future . . . an agriculture in which grass will act as the great balance wheel and stabilizer to prevent gluts of other crops— to save soil from destruction— to build up a reserve of nutrients and moisture in the soil,*

*ready for any future emergency . . .*  
From Henry A. Wallace, Democracy Reborn (1944).

Imagine our cities and towns surrounded once again by farms, providing food and fuel and shelter for a sustainable future. This is a vision of true homeland security! And

this seems like such common sense.

There is something so hopeful about a return to common sense, in this case grassroots common sense. It speaks to an innate wisdom longing to emerge in each of us, faced as we are with the repeated failure of the over-sized, exploitative institutions to which we have adapted in recent history. We have witnessed unspeakably cruel wars and the devastation on every continent of beloved home places, forests, waters, neighborhoods and communities. We have watched brilliant minds and imaginations drained into the war industry and the production of crassly unhealthy technologies which deliver prosperity to the few at the expense of the many.

I suspect there has been a growing anxiety in all of us and a longing for the common sense simplicity of earlier times. We know when things are not right . . .

A grassroots movement called Transition Culture is spreading from England to towns and neighborhoods close to you. It arose in 2004 when a group of students and their teacher, Rob Hopkins, looked long and seriously at the twin forces of peak oil and global climate change looming on the world horizon. Instead of waiting hopelessly for the inevitable consequences, they decided to prepare for them with the grace of a deep humanness. Their plan of action is both visionary and practical. It is moving untold numbers of ordinary people to gather together in local communities to identify the talents and inventiveness they can bring to creating a more meaningful, just and ecologically sustainable society, one that might just be infinitely better than the one we are enduring.

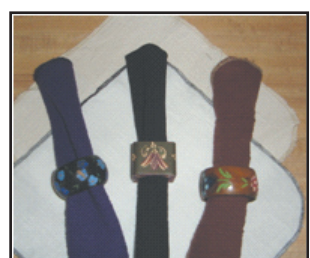
We are grateful for their work, which so aligns with ours and we plan to integrate it into our 2009 programs. "When we do and think and feel certain things privately and in secret, even when thousands of people are doing, thinking, whispering these things privately and in secret, there is no general collective understanding from which to move. Each takes her or his risks in isolation. We can think of ourselves as individual rebels and individual rebels can easily be shot down . . . But these thoughts and feelings, suppressed and stored-up and whispered, have an incendiary component. You cannot tell where or how they will connect; spreading underground from rootlet to rootlet till every grass blade is afire from every other." -- Adrienne Rich

Together, dear friends, let us be as simple and modest as grass and tenacious as their roots set afire. Contact 908-362-6735 or info@genesismfarm.

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# Book Review: World Made by Hand

Review by Iona

I used to say that I would have been happy living pre-TV because I hate TV. I use the word “hate” intentionally. I feel that TV is the most abominable invention and should be classified as “Public Enemy Number One.”

At a later point, I decided that I might have been very happy pre-TV *and* pre-car. As a fully-formed environmentalist now I see the sick and deadly repercussions of our crazy car society.

Having laid the foundation for a look at *World Made by Hand* by James Howard Kunstler, I expected to read about a culture less barren than that portrayed in *The Road* by Cormack McCarthy (a “must read”) but richer in cultural values than today’s society, at least today’s American society.

Since I love to make things by hand and since my husband loves to grow organic vegetables and since we had thousands of nuts until the past two years when nut-less hickory and oak nut trees became another probable consequence of unchecked climate change, I thought the life Kunstler was about to describe might actually be lovely — something above pioneer days yet super simple, reminiscent of a dream I had about a year ago where we all had plain, natural clothing and hairdos and lived in extraordinarily beautiful, natural small homes.

Those were my expectations.

What I read in Kunstler’s pages was a bit more dreary and more ominous than my rose-eyed images. “Overall, the place gave off the odor of a society that was struggling desperately to keep business going and largely failing.” Think that one over.

Here’s another: “It was about a three-mile walk home to Union Grove. In the old days, you’d drive it, of course, but now you walked. I didn’t mind. I enjoyed the peacefulness and easy pace of the walk. In a car, I remembered, you generally noticed only what was in your head or on the radio, while the landscape itself seemed dead or at least irrelevant. Walking, it was impossible to not pay attention. On a mild luminous evening like this, the landscape came alive. The crickets had started up. In the distance a last glimmer of sun caught the top of Pumpkin Hill where men were still out mowing the first hay crop on the Deaver farm. You could hear their horses from down where we were and someone was singing while he worked . . . .

“In the early twenty-first century, farming had all but died out here. We got our food from the supermarket, and not everybody cared where the supermarket got it as long as it was there on the shelves. A few elderly dairymen hung on. Many let their fields and pastures go to scrub. Some sold out to what used to be called developers and they’d put in five or ten poorly-built houses. Now, in the new times, there were far fewer people and many of the houses outside town were being taken down for their materials. Farming was back. That was the only way we got food. Ben Deaver employed at least twenty men from town on his farm. You could

smell the horses down where we were on the bridge. Sometimes the whole world smelled of horse. It was my fond wish to own one someday.”

Could a world like this happen in 50 years? 25? Heaven forbid, 10?

People were reduced to basics

when the juice would flow or how long it would last or even where it came from. There was no Big Pharma so people re-learned natural herbal treatments for their ills using plants instead of chemicals with harmful side-effects. (This sounds good to me.)

“The real estate industry no longer existed . . . . With the electricity off, you didn’t hear recorded music anymore. You had to make it yourself.” (I like this, too; I don’t like electronic music.)

“Funny how the old times came back with a vengeance.”

Junk from our wasteful ways? The old landfill was mined for useful things and a band of hard-assed people ran it.

Imagine this: “We rolled on for a while without speaking and I couldn’t resist the sheer enjoyment of the journey. The landscape had changed so much over the years. A lot of what had been forsaken, left-over terrain in the old days, was coming back into cultivation, mostly corn, some barley, oats, hay and lots of fruit trees. Everywhere that had

been a parking lot, the pavement was breaking up and growing over with scrub, sumac and poplar mostly. The roadside commercial buildings going out of town to the west were in various stages of slow disassembly: the discount beverage warehouse, the strip mall where movie rental, dollar store and a Chinese take-out joint used to be. All the metal was stripped off.”

How did this happen? Kunstler weaves into his story this thought: “I (the protagonist, Robert) argued that the human race should have known it was in for trouble, at least we in the United States should have, given how insane our way of life had become. Minor (one of the characters) quit blowing into his harmonica long enough to say that John D. Rockefeller and the Bush family had made a deal with the Devil going back all the way to the 1900s.”

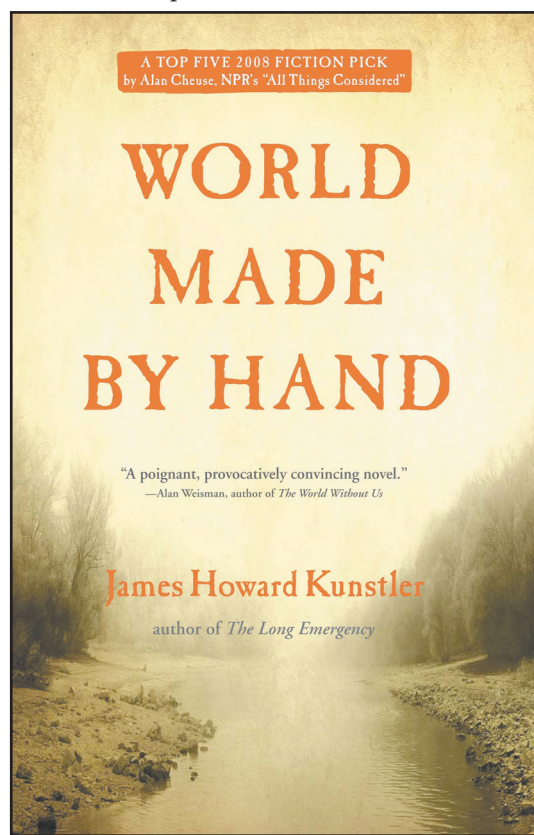
There was one scene I could not stomach so I skipped it.

Through the rest of the book, however, I found myself chuckling aloud every so often as human humor peeped out. There’s nothing like humor when times are tough.

This novel portrays three different types of communities trying to survive in the same town: 1) a successful plantation where a businessman had kept things going and hired local folks, 2) the landfill ruled by a truly rotten man who hired down-and-out cohorts who evinced more humane ways than he did, and 3) a religious cult escaping a horrid place. They were not fundamentalists but people who pitched in to help everyone after they had gotten themselves established and accepted.

I’d like to share the very last line with you since it won’t ruin a surprise ending but pretty well sums up the theme of the book: “And that is the end of the story of that particular summer when we had so much trouble and so much good fortune in the world we were making by hand.”

**This \$24 book is published by Atlantic Monthly Press.**



— scrounging items from the past, making do with what they had. Family members were dispersed, whereabouts unknown — also unknown was whether or not they were still alive as all major communication systems were gone, as were transportation systems and the postal service.

Roads were unusable. Electricity came on for a few minutes every month — nobody knew

# Clothesline Conversation

*Do the kids today even know what a clothes line is?  
For all of us who are older, this will bring back memories.*

## THE BASIC RULES

1. You had to wash the clothes line before hanging any clothes. Walk the length of each line with a damp cloth around the line.
2. You had to hang the clothes in a certain order and always hang whites with whites and hang them first.
3. You never hung a shirt by the shoulders, always by the tail. What would the neighbors think?
4. Wash day was Monday . . . never hang clothes on the weekend or Sunday for heaven’s sake!
5. Hang the sheets and towels on the outside lines so you could hide your ‘unmentionables’ in the middle.
6. It didn’t matter if it was sub zero weather . . . clothes would ‘freeze dry.’
7. Always gather the clothes pins when taking down dry clothes. Pins left on the line were ‘tacky’.
8. If you were efficient, you would line the clothes up so that each item did not need two clothes pins but shared one of the clothes pins with the next washed item.
9. Clothes off of the line before dinner time, neatly folded in the clothes basket and ready to be ironed.

**IRONED???????** Well, that’s a whole other subject.

[Ed.: We who care about climate change try not to iron.]



*Clothesline Made by Hand. This is the tornado-proof clothesline John Conner made when he and Iona moved to Shade Gap. The clothes are soaking wet after two days of rain and the dish towel in the middle is frozen. It was hooked onto the line on the left and remained airborne when untangled, despite the fact that there was no wind. Photo by Iona*

# CLOTHESLINE POETRY

*A clothes line was a news forecast  
To neighbors passing by.  
There were no secrets you could keep  
When clothes were hung to dry.*

*It also was a friendly link  
For neighbors always knew  
If company had stopped on by  
To spend a night or two.*

*For then you’d see the “fancy sheets”  
And towels upon the line;  
You’d see the “company table cloths”  
With intricate design.*

*The line announced a baby’s birth  
To folks who lived inside  
As brand new infant clothes were hung  
So carefully with pride.*

*The ages of the children could  
So readily be known  
By watching how the sizes changed  
You’d know how much they’d grown.*

*It also told when illness struck,  
As extra sheets were hung;  
Then nightclothes and a bathrobe, too,  
Haphazardly were strung.*

*It said, “Gone on vacation now”  
When lines hung limp and bare.  
It told, “We’re back!” when full lines  
sagged  
With not an inch to spare.*

*New folks in town were scorned upon  
If wash was dingy gray,  
As neighbors carefully raised their brows,  
And looked the other way.*

*But clotheslines now are of the past  
For dryers make work less.  
Now what goes on inside a home  
Is anybody’s guess.*

*I really miss that way of life.  
It was a friendly sign  
When neighbors knew each other best  
By what hung on the line!*

Iona, I thought that this was worth sending (*Basic Rules and Poem on left*).

I got it a while ago. I don’t have a clothesline, rather three drying racks that I use on a regular basis. But the logic is sensible, such as not hanging shirts by the shoulders and always bring in your pins and wipe down the line, etc. — all things that were passed on to me.

I like to see some lighthearted poems like this — maybe as a reprint for the paper?

When things like this can’t be documented, they can be posted as “overheard on the Web”.

Cindy Waugh, Sykesville MD

YEA, CINDY! I LOVE THIS!! Thanks for submitting it. Perhaps you missed my “This is a Clothespin” article in our April issue. It was great, if I do say so myself. John built an indestructible clothesline for us, as is his habit. It would survive a tornado.

I have been hanging clothes all my life and never once thought about wiping off the lines. (bird poop\* for newcomers to clothes-hanging discussions)\*\* I’m still alive and healthy.

But, as a counter-force to mentioning slimy bird poop, let me tell you how unbelievably scrumptious outdoor-dried bed linens are — THE BEST! It’s almost as good as sleeping outside in fresh air.

I’d like to put in both of our letters as a conversation about hanging clothes. But I need your OK. You have your racks and I have our tornado-strong line, of which I should take a picture. At this moment nearly all of my clothes are getting soaked as I failed to do Rule #9, and naturally, as a global warming believer, I refuse to iron most everything these days.

Typical rebel here in Shade Gap, Pennsylvania  
Iona

**\*Cindy’s response:** The reason for wiping down the line is that the plastic coating gets black over time and the black can stain your clothes. That’s all. My grandmother would take a damp washcloth out to the line each day and wrap it around the line and run her hand down the line before beginning. No biggie.

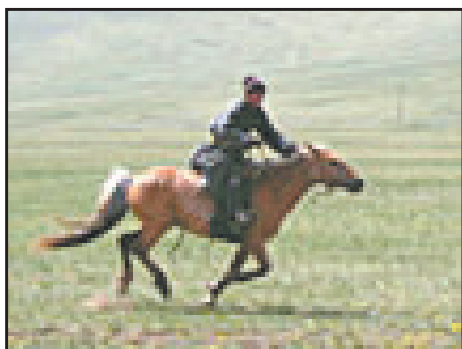
**\*\*Iona’s response to Cindy’s response:** I don’t buy plastic-coated clotheslines but ones made with natural fibers so I just jumped to the bird poop idea after spotting a bird sitting on my clothesline last summer. Physiologically speaking, I guess I had my bird anatomy confused.



## Mining in Mongolia



The mining sector has been growing at an explosive pace since it was opened to foreign investment in 1997. Companies from the U.S., Russia, China, Canada and elsewhere have all rushed in to tap the Mongolian earth's mineral deposits. Photo by Alice Thomas



Mongolia's nomadic herdsman are increasingly imperiled by the exploitation of the country's vast mining reserves. Photo by Alice Thomas

from the Mongolian Center for Human Rights and Development (CHRD), a non-governmental, human rights organization located in Ulaan Baatar. CHRD lawyers have brought the first legal cases to force the clean-up of abandoned mining sites and to ensure ongoing mining operations are conducted legally and responsibly.

In addition to training, Earthjustice lawyers provided input into specific CHRD cases, helping them to troubleshoot and develop case strategies.

CHRD recently won its first case, convincing the court to order the clean-up of an abandoned gold mine. Earthjustice is now assisting CHRD's legal team in developing a strategic plan and exploring ways to further cooperate in the future.

Alice Thomas is a Staff Attorney with the International Program at Earthjustice. Earthjustice's International Program works with environmental and community groups from other countries to hold polluters and governments responsible for environmental harm, to promote the human right to a healthy environment and to create strong tools for citizens to protect natural resources and the environment.



(Continued from page 1)  
assessment processes.  
In September, Earthjustice conducted a two-day workshop with lawyers

## Next Generation

(Continued from page 1)

trepidation about taking a mild hike with her baby in a stroller. She wondered what stroller would be best to support her baby on the bumpy ride. Meanwhile, Erik was trying to convince me to go on a rafting trip the summer Cora was born; friends of ours who have a three year old do it all the time but a seasoned rafting family with generations of experience recommended we wait until she was six or seven.

I could go on and on but I chose these stories to illustrate the purpose of the site. It is for everyone who is committed to sharing a healthy outdoor lifestyle with their children, whether they are old, seasoned pros or beginners themselves.

When Erik and I went camping with Cora, then two and a half weeks old, we did not think of the swarms of mosquitoes that would take over our camp site or how we would manage the three of us in a small tent with our 85-pound dog and our baby still in diapers (cloth diapers). It was a tiring and dirty car-camping experience but we all survived. It would have been great to have had a resource that could have told us how other people managed in such a situation.

It is one thing to take your children outdoors; it is another to have the whole family enjoy the experience and to have the kids grow up wanting to continue these adventures with you. There are lots of families with minimal outdoor experience who want to instill the love of nature in their children; they need the support of a group of dedicated and committed outdoor parents.



That's how this Web site was born — because of my own unanswered questions, because I knew a few things that would be useful to others and because I was convinced that many other parents were in the same situation.

Heidi is the main blogger on [www.outdoorbaby.net](http://www.outdoorbaby.net). She spends her time caring for her two-year-old daughter and teaching as an adjunct professor at Colorado Mountain College. She has lived in Canada, New York, Arizona and is now in Colorado. Stay posted to [www.outdoorbaby.net](http://www.outdoorbaby.net) for more advice and tips. You can also log on and share your own adventures and misadventures of family outdoor fun. You may be comforted by others' experiences.

## First-Ever OE Contest

Winner Gets Free Trip to Jamaica

Scratch That

Winner Gets Free Six-Month Subscription

All Entries Will Be Published in February

Ready? Set? GO . . . . .

The Question Is: What can you do in the dark (or semi-dark, i.e. not using lights) to prevent mountains in West Virginia from being blown up?

(Well, on second thought, we might have to censor some answers.)



Kayford Mountain, West Virginia. 5% of our energy comes from mountaintop removal but more than 1 million acres of Appalachia have been leveled. These are among the oldest mountains on earth and support some of the greatest biodiversity anywhere in the United States. Many mountains in Appalachia support very high potential for commercial wind energy development. Wind energy would create more jobs and more energy than mountaintop removal. Photo by J.W. Randolph

## Rattlesnakes

(Continued from page 10)

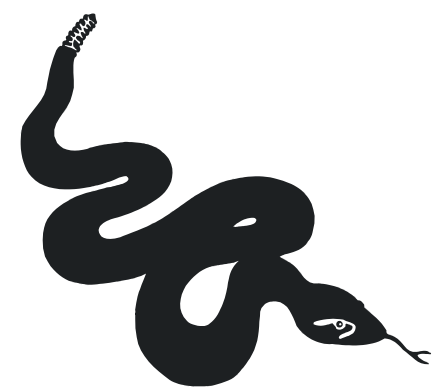
Here in Northwest Pennsylvania, timber rattlesnakes (*Crotalus horridus*) are our grizzly bears (*Ursus arctos horribilis*). We have a fair number of black bears and they're a formidable beast indeed but, if you treat them with respect, they'll reciprocate. Sure, you could be unlucky enough to blunder into a dysfunctional bear but you're far more

slightly less affectionate reverence for the delicate grace of small birds or the non-threatening formidability of raptors. But snakes? I had witnessed evidence of a real change, an honest-to-God paradigm shift from the world I grew up in.

Yes, the environmental movement has failed in several large ways. We've been mostly unable to loosen the grip of corporate greed on the throat of wilderness, lost the natural alliance of hunters and conceded the terms of most debates to an accounting of real or potential dollars.

But still, something fundamental has changed. Though I'm not sure how much real difference it will make, despite the darkness of so many of my expectations, I cling to that afternoon's renewal of hope.

It's better than whisky.  
Reg Darling is a retired bureaucrat living with his wife, Terry, and two Siamese cats. He is the author of *Coyote Soul*, *Raven Heart: Meditations of a Hunter-Wanderer*. His new book, *Hartwell Road*, will be available this winter.



likely to blunder into a dysfunctional human — and bears don't carry firearms. Snakes, though, are alien — the ultimate other. Around here, nearly all the half-forgotten scariness to be found in ragged remnants of our land's wildness has been assigned to the timber rattler.

When I was a child, this section of Heart's Content Road had a reputation for its snakes. Rattlesnakes were hated, feared and killed on sight. If you were a manly man it was your duty to kill rattlesnakes. The ability to spike your brakes at just the right moment to skid a back tire across a snake, shredding instead of merely crushing it, was a skill any self-respecting male ought to possess. I once saw my father do just that less than a mile from today's encounter.

What I had just seen was a great ray of hope. I had seen two regular, rural northwestern Pennsylvanian males (one a native and one a long-ago transplant) react to a large, venomous reptile with appreciation and wonder. They had encountered the sharp, biting edge of this land's remnant wildness and found it beautiful. They wanted to help and protect that wildness — despite its venomous fangs, scaly hide and alien eyes — not kill it.

It's easy to be open to sympathy with bears, wolves or mountain lions whose young virtually define our collective sense of cuteness and arouse our tender, protective instincts and whose shared evolutionary heritage bespeaks an ancient kindredness. It's not much more difficult to arouse a perhaps

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- And in Maryland at:
- Green Earth Goods  
Clarksburg



# Health Care Coming Summary

By Dr. Margaret Flowers  
Coalition for Health Security

The opportunity for real health care reform has finally arrived. Many factors have come together to create a climate that demands real change: increasing numbers of people who are suffering or dying because they can't get health care or are going bankrupt in order to pay for care, an economic crisis that demands a cost-effective solution and the election of a president who understands that health care is a human right. Now is the time to advocate for health reform that creates a health care system based on a single standard of high quality care, access to care for all residents and single-payer financing. We call this Health Security because it means not having to worry about whether you will get medical treatment when you need it the most.

We will only be successful if there is a large grassroots movement, so if you believe that health care is a human right, roll up your sleeves and join the movement!

Action is happening at both the state and federal levels. In Pennsylvania and Maryland, there are state single payer bills. You can learn more about each at [www.healthcare4allPA.org](http://www.healthcare4allPA.org) and [www.mdsinglepayer.org](http://www.mdsinglepayer.org). Other states have single-payer bills as well.

At the federal level, John Conyers and Dennis Kucinich are the lead sponsors of HR 676 which currently has 93 cosponsors. A steering committee representing 20 million members has come together to advocate for a national health plan based on public financing and private delivery of care. A Web site for the coalition is being put together. In the meantime, you can learn more at some of the member organizations' Web sites. These include [www.healthcare-now.org](http://www.healthcare-now.org), [www.pnhp.org](http://www.pnhp.org) and [www.pdamerica.org](http://www.pdamerica.org). This coalition will need to grow if it is to overcome the stiff opposition of the for-profit insurance and pharmaceutical companies.

There is a health reform group called Healthcare for America Now. They are advocating for a solution that maintains expensive private insurance and keeps the current fragmented and bureaucratic state of health care. This type of solution has failed repeatedly at the state level. It is important to speak out against this effort or we will continue to have a health care disaster.

If you would like to learn more about what is happening in Maryland and nationally, would like a speaker to come to your group or would like to join the Coalition for Health Security, please contact Dr. Margaret Flowers at [conversationcoalition@gmail.com](mailto:conversationcoalition@gmail.com) or 410-591-0892.

## Draft Health Security Act

Below is a brief excerpt from the draft of the organization of a statewide, publicly-funded health care system. It is the intention that if a national health plan is developed, this system will become part of the national health plan.

**WHO?** All residents of the state of Maryland (living in Maryland more than 60 days). All are covered who need emergency care or are pregnant or are children under 19 years old. Longer residence requirement for long-term care (how long?). Exception is people working out of state. Those who work out of state and have health insurance through their employers would not pay the Maryland health care payroll tax. Those who work out of state and do not have insurance through their employers would be covered under the Maryland plan and would pay their share of the payroll tax plus possibly the employers' share depending on their income. All of those covered under public programs, CHAMPUS, FEBHP would be covered.

**WHAT?** A comprehensive package of benefits would be provided including all medically necessary care, preventive care, mental health services, substance abuse treatment, home and community-based services, dental services, basic vision and prescription drugs and devices. Deductibles and co-pays may not be permitted. Any additional care not currently covered under the plan may be covered after review and recommendation by the Patient Advocacy Board. Only appropriate medical personnel (those with knowledge in the area of care being reviewed) are eligible to review each case and make recommendations. Administrative personnel and non-medical personnel are not permitted access to patient medical records.

**GOVERNANCE:** All members of the boards are to be selected by their respective organizations. There are no appointees. No members may be currently or in the past two years employed by pharmaceutical, medical device or insurance companies. The Plan will be overseen by the Health Policy Board (HP) and all other health boards will report to the HP Board. The purpose of the HP Board is to receive input from the other boards and to make policy decisions about:

1. Approval of the budget,
2. Approval of changes in source of funding,
3. Evaluation of performance of the system,
4. Evaluation of and recommendations on any legislation related to the system,
5. Guarantee mechanisms for public input and development/implementation of standards of care, and
6. Evaluation of and recommendations on the goals and priorities of the system.

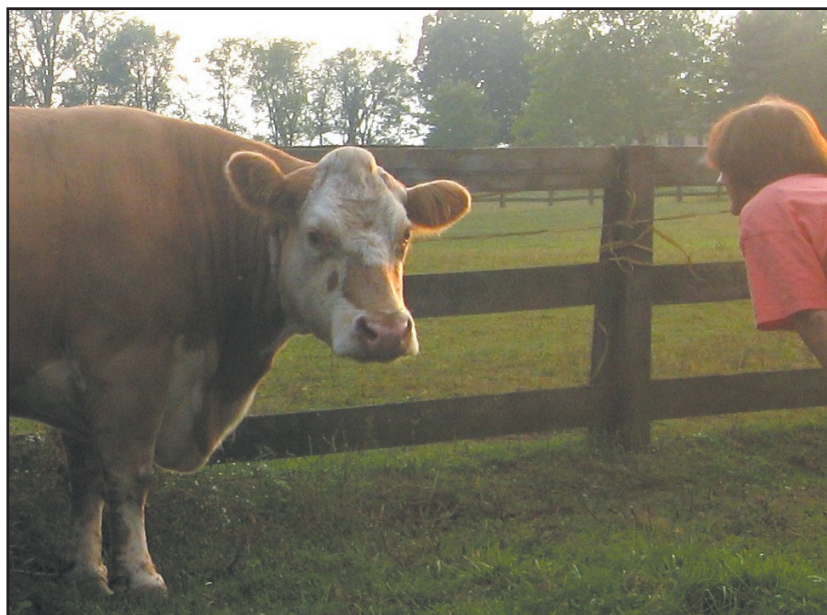


# Val's Vegetarian Column: Ruby's Story

By Valerie Stanley  
Laurel, Maryland

I met Ruby about 12 years ago. Ruby (a Charolais cow) lived in a pasture with a pond at the farm where I boarded one of my horses. Many years passed and when I moved a horse back to the farm, I was very happy to learn that Ruby was still with us, although not as spry as she once was.

Over the past 12 years, Ruby has had three calves. The first she raised and he was sent to slaughter. Ruby's second calf was still-born after becoming breached. Ruby was nursing her third calf on the slope by the pond when he tumbled in and drowned. My good friend Sherra found Ruby that day on the side of the pond, turning her head from side to side and banging it into the dirt as she looked into the pond at her calf, unable to help him.



*Friends: Ruby (a Charolais cross cow) and Valerie Stanley (author). Funds need to be raised to build a shelter for Ruby so she can go to a new home to live out her life in the company of other cows, in peace. Photo by Kathryn Susman*

Some would say that Ruby's actions in response to the loss of her calf were only anecdotal evidence that she could have emotions. My friend, Temple Grandin, a farm-animal behaviorist, responds to criticism like this by explaining that the Hubble Telescope readings are based on anecdotal observations, yet these are widely accepted as truths. There are many scientific studies showing that animals raised for food do experience a whole range of emotions; Jeffrey Masson interviews them in his video entitled, "The Emotional World of Farm Animals."

When I moved my horse back to the farm, I was asked to find a permanent home for Ruby so that she would not wind up at auction and eventual slaughter. Through networking connections at Frisky's Wildlife and Primate Sanctuary in Ellicott City, Maryland and Misfits Sanctuary in Carroll County (also Maryland), we found a wonderful place that Ruby would love to call home, with your help.

Enter Chenoa Manor (<http://www.chenoamanor.org>) in Pennsylvania. Run by a veterinarian, Chenoa Manor's mission is "centered on animal protection and the promotion of a more humane world through educational programs and events targeted for at-risk teens, while advocating the benefits of a compassionate vegetarian and vegan lifestyle." Chenoa already has several cows that could provide companionship to Ruby. Chenoa needs an additional shelter that Ruby could use in inclement weather and, once that is built, Ruby can be taken to enjoy her forever home.

### What You Can Do:

If you are able to assist Chenoa in its efforts to help Ruby, other farmed animals and at-risk youth, please make a tax-deductible contribution and note that it is for "Ruby's Barn." Chenoa Manor's address is: 733 Glen Willow Road, Avondale, Pennsylvania 19311.

*Next Month: Dairy-Free "Cheesy Sauces"  
(I promise!)*

# Food and Health News Briefs

## From Canned Goods to Fresh, Food Banks Adapt

By Katie Zezima  
*The New York Times*

December 19 (excerpt) — Vanessa Rosales comes to the St. Vincent de Paul Food Pantry in Madison, Wisconsin rather than others for one reason: She can choose what food she brings home, rather than being handed a bag filled with random groceries.

The pantry, which looks like a small grocery store, is indicative of broad changes going on at the nation's food banks and food pantries.

No longer simply the domain of canned corn and peanut butter, food banks are preparing ready-to-eat meals, opening their own farms and partnering with institutions as varied as local supermarkets and state prisons to help gather and process food.

They are also handling much more fresh produce, which requires overhauling the way they store and distribute food.

Pantries, which distribute the food donated to food banks, are also acting as social service clearinghouses. Many are handing out information about screenings for breast and cervical cancer and sending volunteers out to sign up people for food stamps. . . .

Food banks are trying to feed more people with less food. . .

## Chicago-Area Says 'No We Won't' to Nuclear Power

By Harvey Wasserman  
*CommonDreams.org*

December 6 (excerpt) — As the world media filled with the victory of Barack Obama, a defeat for atomic power in his own backyard sent a Solartopian message to the new administration.

In the Chicago-area communities of Oak Park, Berwyn and Riverside, voters approved by well over two-to-one a referendum asking that "our elected officials in Illinois take steps to phase out nuclear power in the state, replacing it with renewable sources such as wind and solar."

The three communities currently rely on atomic power for some 75% of their electricity, which is supplied through Commonwealth Edison, a subsidiary of Exelon, America's largest nuclear owner. With 11 operating reactors, Illinois has more reactors than any other state.

But 31,586 (68.3%) voters approved the referendum, versus 14,676 (31.7%) opposed.

Atomic energy will be one of the most critical issues the new administration will face. Obama was criticized by eco-advocates for taking campaign donations from Exelon. Both he and Vice President-elect Joe Biden expressed campaign support for atomic power.

## Supreme Court Decision has Major Implications for Canadian Industry

GLOBE Foundation of Canada  
*Environmental News Network.org*

November 26 (excerpt) — In a move that could have far-reaching implications for Canadian industry, the Supreme Court of Canada has issued a decision that would require companies to compensate nearby neighbors for 'excessive annoyance' even if they have complied with all applicable rules and regulations.

The unanimous judgment by the Court puts an end to a long-running battle between St. Lawrence Cement Company and people living near its plant in Beauport, Quebec.

A group of over 2,000 nearby residents initiated a class-action suit in 1993, alleging that the St. Lawrence Cement plant was spewing excessive amounts of residue on their homes and that odors and noise associated with its operation was devaluing their properties.

The company shut down the plant in 1997 after spending over \$8 million between 1991 and 1995 to install new furnace scrubbers and had appointed a director of environmental affairs to deal with the many complaints it was receiving.

## Eco-Friendly Bible Published

*Chicago Tribune via Washington Post*

November 8 (excerpt) — Did you know that the Bible contains 1,000 references to the planet but only 490 references to heaven and 530 references to love?

Could this mean that God is the supreme tree-hugger?

Publishers of the "Green Bible" seem to think so.

The new Bible, which recently hit shelves, prints God's word on partly recycled paper in soy-based ink. It indexes all mentions of the animals, land and water, and it highlights, in green ink, all verses of the New Revised Standard Version that speak to stewardship of the planet.

For example, Ezekiel 34:18: "Is it not enough for you to feed on the good pasture, yet you must tread down with your feet the rest of your pasture? When you drink of clear water, must you foul the rest with your feet?"

[Ed.: Here is my favorite "green" quote: Isaiah 40:25-26.]

<sup>25</sup>To whom then will you compare me, or who is my equal? says the Holy One.  
<sup>26</sup>Lift up your eyes on high and see: Who created these? He who brings out their host and numbers them, calling them all by name; because he is great in strength, mighty in power, not one is missing.

## The Peanut Butter & Jelly Solution to Climate Change

*(tongue in cheek)*

Livestock create a beefy portion of all greenhouse-gas emissions: 18 percent, according to the United Nations.

Could the answer be as simple as two slices of bread and a slathering of peanut butter and jelly?



Perhaps. Compared with a burger, this classic sandwich saves as much as 2.5 pounds of carbon dioxide, 280 gallons of water and 50 square feet of land. . . . "You don't have to change your whole diet to change the world," says the PB&J Campaign. "Just start with lunch."

*See PB&J Campaign.org.*



# Winter Warm-Ups

By Iona  
Shade Gap, Pennsylvania

Here are a few of the very, very low-cost things we've done around the house to try to reduce our heating bill and our contribution to global warming. We also have an application in for a free weatherization program for low-income families and one for financial assistance with our electric bill, as our home is all electric (other than the fires we make in the evenings when we have no heat on at all in our three-story home).



The quilt over the door to John's office means we don't need to heat the main part of the house during the day. This was an old quilt, the dowel was under \$10 and the brackets are scrap 2 x 4s. We use space heaters in our offices and the rest of the house stays around 50 degrees on cloudy days. On sunny days, we are fortunate that the original owners designed the home to be passive solar. The temperature can easily reach 75 degrees in winter. We don't know if our space heaters are better or worse than our electric furnace because we have never tried this system for saving energy before. Photo by Iona



For four years we never closed the damper after fires -- NEVER! And, worse, never even thought about it. How bad is that for two people who spend so much time teaching others about global warming? So this year I made it a habit to place the poker on a counter in the kitchen which I see first thing every morning. That reminds me to close the damper and hang the poker in the little hole in it. Hanging the poker in the middle of the fireplace reminds John to open the damper before starting a fire! That's even more important to remember. Photo by Iona



This is the second of two ugly old polyester quilts I bought years ago at a garage sale. The first I used to block the heat from coming upstairs when my basement office heater is on (see December "OE"). I realize this isn't the "Ultimate" in window protection, but I believe it's better than nothing. The dowel cost \$5. We roll it up every morning so the sun's energy can heat the house. Photo by Iona



Here's a very cheap way to cut down on cold air coming into your house: foam outlet insulation obtained at the local hardware store. I put these on all our outer wall plugs. Note window on left showing this outside-facing wall. Total cost for our house was under \$10. But I can still feel cold air coming in through the little slits so we need to pick up some child-proof plugs. Photo by Iona

# Think Spring: It's Coming!

By Scott Lynch  
Madison, Wisconsin

Across the United States, many communities are adopting rain barrel initiatives. Some are sponsored by not-for-profit citizen groups, while others are run by public authorities such as water utilities and stormwater management districts. In all cases, they return a suite of benefits that reflects the interconnected nature of water, energy and pollution.

The RainReserve Program, created by not-for-profit Sustain Dane in Madison, Wisconsin, represents a rain barrel program on the cutting edge of community impact, in part because of the way the program has developed, and in part because of the way that it is being expanded to a nationwide audience.



Harvesting and re-using rainwater is a great way to connect kids with the earth. Photo by Scott Lynch

Now entering its fifth year, the RainReserve Program has seen thousands of community members put their values into action by collecting rainwater off their rooftops. In doing so, they are helping to cut demand on strained water resources, curb the need for the electricity used to pump and treat water and reduce the impact of rainwater washing sediment and contaminants into local waterways.

The program has been so successful because it has taken a thoroughly modern approach to this age-old practice.

Scott Lynch  
RainReserve Customer and Community Relations Coordinator  
tel: 608-316-6844  
www.rainreserve.com



RainReserve systems make use of a wide range of containers. The most common is a re-used 55-gallon food barrel like the one pictured here. Photo by Scott Lynch

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a Labrador dance of  
loons whirling around each other  
in the cold mists above the Ironstone River  
like yin and yang calling  
like hands wrestling  
or a nebula millions of light years distant  
in the darkening evening

Sandy Chilcote, Newfoundland, Canada (while visiting Labrador)

## CLASSIFIEDS

### MEETING NOTICE

**CLEAN ENERGY AND GREEN LIVING FESTIVAL: Frederick County, MD, January 17th.** Family-friendly, afternoon event will be held in Urbana Fire Station. Open to public and sponsored by "Our CommonWEalth." Opening ceremony and remarks 11 a.m. The Festival (displays, demonstrations, recycling programs) begins at 12 noon. Ends at 5 p.m. To learn more, please call 301-371-9852

### CALL FOR PRIMARY SOURCES

**Research Project:** I am starting an independent research project which involves keeping track of the **projected powerline, gas line and highway projects which are proposed to cross the Appalachian Trail and the Allegheny Mountains** in the Central Appalachian Region. If you know of any local projects in the mountain regions of West Virginia, Virginia, Maryland, and Pennsylvania, please let me know. I am especially looking for timelines and examples of scenario planning. **Contact:** Matthew Lindberg-Work 650-465-1724 or 240-258-2806. sierraclubmatthew.arcticberg@choicemail.com www.solomonsgap.com/power-tothepeople/rightsofway

### HELP THE PARK

Show your support for the "Friends of Cunningham Falls State Park and Gambrill State Park" — Annual Fundraising Drive happening now.

The "Friends" are a volunteer group based in Central Maryland. We support the recreation and conservation programs at Cunningham Falls State Park and Gambrill State Park (in the Catoctin Mountains of Maryland).

Please consider helping out with a contribution.

The Cunningham Falls State Park and Gambrill State Park is Combined Federal Campaign (CFC) agency # 93407. (The CFC is a workplace giving program for Federal employees — The "Friends" are registered with the Combined Federal Campaign for the National Capital Area).

You could also send your donation directly to us. Our address is:

**14309 Catoctin Hollow Road  
Thurmont, MD 21788  
Attn: Friends Treasurer**

The Friends of Cunningham Falls State Park and Gambrill State Park is a registered 501(c)3 non-profit agency. Your donation is tax-deductible.

The Friends of Cunningham Falls State Park and Gambrill State Park was revived in 2004 in order to continue supporting these two Maryland State Parks. In the time since 2004, the "Friends" have contributed the equivalent of more than fifty-thousand dollars to the parks. The Friends have purchased two 4WD vehicles, a skid-loader, two defibrillators, a chainsaw and the Manor Area tool cache. We help with the Cunningham Falls' Maple Syrup Festival each March and the Spirits of the Furnace event each October.

The Parks include roughly 17 miles of trails and most of these trails are kept clear by volunteers. The two State Parks and the surrounding area include more than 6,000 acres of publicly-owned forestland.

### VOLUNTEERS WANTED

The Order of the Earth News needs help. We are growing and the costs are rising. There are many things people can do to shore up the creation of this newspaper.

**Markets:** We are trying to find places to sell our paper which are sympathetic and won't take a huge cut from our new \$1 price. Please get contact person's name and phone number so we can call them, then call Iona at 814-259-3680.

**Permissions-Getter:** Just a few minutes of your time is required to help us get permission to reprint articles and keep us out of trouble.

### REPORTS

**Target Atmospheric CO<sub>2</sub>: Where Should Humanity Aim?** Dr. James Hansen's recent 18-page report shedding light on new, extremely low goals for carbon dioxide reduction. Very technical. Color charts. \$12 payable to The Order of the Earth, HCR 83 Box 881, Shade Gap PA 17255.

**In Harm's Way: Toxic Threats to Child Development.** Released last year by Greater Boston Physicians for Social Responsibility. Just one copy, very slightly marked. \$6 payable to The Order of the Earth, HCR 83 Box 881, Shade Gap PA 17255.

**The Stolen Forests:** A ten-page exposé of horrendous illegal logging practices and a sleuth who risks his life to uncover the truth about valuable, vanishing trees worldwide. Reprint from *The New Yorker* article reads like fiction. \$8 payable to The Order of the Earth, HCR 83 Box 881, Shade Gap PA 17255.

**Harnessing the Wheel:** A fascinating mix of intermediate technology vehicles has evolved to fit the transportation needs of Southeast Asians. Perhaps we can learn from their discoveries. 18-pages of fabulous bike ideas from around the world. \$10 payable to The Order of the Earth, HCR 83 Box 881, Shade Gap PA 17255.

**Wild on Wheels:** Vintage Pedal Power Report featuring "12 Ways in Which My Bike is Better Than Your Car (see bottom left)." \$10 payable to The Order of the Earth, HCR 83 Box 881, Shade Gap PA 17255.

**Earth Report on Cheap and Free Electricity:** 28 pages of unique ideas for utilizing energy from the sun, air, wind and water. A great collection of clippings from the past. Why were these ideas ignored? \$10 payable to The Order of the Earth, HCR 83 Box 881, Shade Gap PA 17255.

**Energy Answers - Heat Your Home and Save a Fortune:** Vintage articles in a unique collection of ideas that have been squelched. 32 pages of fun and curiosity for the technically-minded. \$10 payable to The Order of the Earth, HCR 83 Box 881, Shade Gap PA 17255.

**Energy Saved, Dollars Earned:** Real-world examples of how energy efficiency can benefit Maryland consumers. Published by Maryland PIRG Foundation. \$5 payable to The Order of the Earth, HCR 83 Box 881, Shade Gap PA 17255.

**Combating Climate Change: A Guide for State Activists:** Environmental activists have played a pivotal role in advancing state legislation to protect human health and the environment. This 39-page, 2004 report tells how people work to reduce carbon emissions. \$5 payable to The Order of the Earth, HCR 83 Box 881, Shade Gap PA 17255.

### FOR SALE

**The Great Silent Grandmother Gathering book by Sharon Mehdi.** Like new. Value \$10.95. Now \$8 includes shipping. Send check to: The Order of the Earth, HCR 83 Box 881, Shade Gap, PA 17255.

**Leather-bound, gold-edged, beautiful copy of Thomas Paine's Common Sense and Rights of Man.** \$15 includes shipping. Send check to: The Order of the Earth, HCR 83 Box 881, Shade Gap, PA 17255.

**HP Laserjet Color Printer:** Lightly used, Model 3500, \$75 or best offer. Pick up in Shade Gap, PA. Call 814-259-3680 for directions.

**The Day After Tomorrow DVD:** Shown only twice. What if global heating were to cause another ice age? \$10 payable to The Order of the Earth, HCR 83 Box 881, Shade Gap, Pennsylvania 17255.

**Kilowatt Ours: A Plan to Re-Energize America DVD.** The award-winning national edition of this film shows how to save energy. Like new. This is what our Kilowatt Ours Curriculum series was based on. \$10 payable to The Order of the Earth, HCR 83 Box 881, Shade Gap, PA 17255.

PLACE YOUR AD \$.25 PER WORD

## Letters to the Editor

Hello Iona.  
I think "The Order of the Earth" has a definite impact here where there is still wilderness even though it can be taken advantage of!

Sandy Chilcote  
Newfoundland  
Canada

[Ed.: Sandy sent this photo of caribou last years and I saved it. Now it fits his letter perfectly!]



Dear Editor:

The most life-threatening events since recorded history are about to befall us and very little is being done to stop them.

The urgency of the global warming crisis is unprecedented and in need of immediate actions. December 6<sup>th</sup> was the Global Day of Climate Action, designed to call attention to this imminent threat. Some climate scientists, Dr. James Hansen of NASA being one of them, predict that we have less than ten years to drastically reduce our carbon release into the atmosphere before we reach the tipping point, beyond which no reductions in our carbon production will prevent collapse of life on earth in the next 25-50 years.

For those who don't believe that global warming is anthropogenic (human-caused), there are so many scientific evidences and books written about those evidences that to deny global warming seems ill-informed at best. It is well-established by the scientific community that there is an unprecedented rate of glacial and ice-cap melting in the northern and southern polar areas; carbon dioxide concentra-

tions in the atmosphere have gone to a level not seen in millions of years; likewise methane, not commonly reported on but still a very powerful greenhouse gas, has increased enormously during our industrial development; ocean water has increased significantly in temperature and acidity, leading to coral reefs dying and threatening shellfish with an inability to form shells; plants and animals of many species, including threatened ones, have moved to more northerly habitats as their principal habitats have become overheated.

The threat of the climate crisis is real and rapid, though we in the U.S. don't see it in any dramatic ways . . . yet. To prevent uncontrolled collapse, we must take extreme measures. Very simply, greenhouse gases result from burning carbon-based fuels, which are used primarily for heating, cooling, electricity production, manufacturing, animal food production, transportation and entertainment.

We must demand of the new administration the development of a national transportation system in which, possibly, rail lines can be built on or along highway lanes. We must demand gasoline rationing as we had in World

War II, another time of emergency. We must demand that Congress require auto manufacturers make only hybrids or other high-efficiency vehicles. We must grow as many of our own vegetables as possible, using our backyards and community spaces. We must severely lessen our meat consumption, since more greenhouse gases result from animal agriculture than from all forms of transportation.

We must demand that Congress end subsidies to the corn and soybean industries and instead subsidize the plant food industries. We must demand that Congress change the tax structure to favor small families who contribute less to the climate crisis by using less material goods. On an individual or family level, we must limit our car and plane travel to only special needs rather than our personal pleasures.

If all these actions are taken, in addition to many others, we will be a model for other countries to follow and have a chance at reversing the engine of global warming that threatens us, our children, grandchildren and generations to come.

Len Frenkel  
Upper Saucon Township PA

## 12 Ways in Which My Bike is Better Than Your Car

1. My bike smells better when it's moving down the road.
2. My bike is cheaper.
3. My bike doesn't use gasoline and force me to fork over money to nasty oil companies.
4. My bike is smaller.
5. My bike allows me to go down the sidewalk against traffic on a one-way street to escape the police.
6. My bike lets me experience the environment I'm travelling through.
7. My bike takes less resources to build and maintain.
8. Nobody can hide in the back seat of my bike and jump out and scare me.
9. My bike doesn't encourage the creation of more freeways and parking lots.
10. I can carry my bike up the stairs.
11. My bike is much less likely to run over small, furry critters or bigger not-so-furry ones.
12. My bike is pretty, your car is a piece of shit.

Sample from "Wild on Wheels" report listed in our Classifieds. This expose is from a zine that does topics based on a different letter of the alphabet each issue called *Alphabet Threat* in Sacramento, CA (natch).





## Blowing Up Mountains

(Continued from page 1)

Then came the feature presentation for the evening. The speaker, J.W Randolph, described how he is working to educate people about what mountaintop removal is really all about. He described a process in which coal is extracted from mountains by blowing off the tops of mountains to access deep coal seams. As the process unfolds, the overburden is disposed of by filling in neighboring stream valleys with it. As of 2000, an estimated 1.2 million acres of land had been forever changed in this way and a number of people have lost their lives from flooding directly caused by mining operations.

In addition, drinking water supplies and streams have been ruined in many locations and the mined areas have high rates of poverty. Further, the dust and debris travel through the air and land in the Great Lakes, the Chesapeake Bay, The Gulf Of Mexico and everywhere in between. It affects everyone whether they realize it or not.

Mr. Randolph then presented a map showing that coal-fired power plants in Maryland (my home) are using mountaintop removal coal from two sites in West Virginia. Mr. Randolph also cited information from the U.S. Geological Survey and others that show that coal production has peaked and will only last a few more decades. Sadly, the damage and continuing economic loss created by mountaintop removal coal mining is basically permanent.

One problem that landowners faced when they tried to fight mountaintop removal projects was that mineral rights dominate over other rights. Another issue has been the threat of reprisal. J.W said that, "It's a lawless war zone in these sites." Basically, this problem needs the attention of the rest of the nation.

In conclusion, J.W Randolph asked the audience to step up and communicate with elected officials such as Senators Mikulski and Cardin on this issue. He also urged the audience to support the new version of the Clean Water Protection Act (HR 2169) and stop this destruction of lives.

After the meeting. Audrey Adams



*The Bush administration made it easier for coal companies to dump toxic waste from mountaintop removal directly into waterways. More than 1,200 miles of streams in Appalachia have been buried and polluted by waste from these sites. A bill in Congress called the "Clean Water Protection Act" would stop this. Please visit [www.iLoveMountains.org](http://www.iLoveMountains.org) and write to your Congressperson to tell her/him what you think. Photo by J. W. Randolph*

(wife of a teacher) said that what she enjoyed most was that people actually got to see what was going on in other states. It was very informative to her. She said that, "The tie to water is a key factor in getting people involved. No one can survive without water and people will most likely react to that issue first."

Martin Chamelin, a former resident of West Virginia and a dairy farmer added: "Destroying land for twenty years of coal doesn't make sense. The coal will run out and there will be nothing else to survive on."

We as a nation need to focus on figuring out a better, more sustainable way to live than creating lifeless areas from what was one of the most productive and biologically diverse places on the planet.



*Kelly Habicht (high school sophomore) rock climbing in West Virginia where her Venturing Crew group climbed to the top of a mountain and then rappelled down. This is an area where the mountains have not been blown apart to get cheap, dirty coal. Photo by Paul Kazyak*

## Introducing Kelly Habicht

Here's Kelly . . .  
Author of Our  
Front-Page  
Article About  
Mountaintop  
Removal

(Pooled from several of Kelly's emails as we were working on her story.)

I'm so excited that [my story] is going on the front page! I was asked to write the article as soon as I entered the door of the meeting. It was a bit of a shocker but I'm so happy I did it. It has been an experience of its own.

I am a sophomore at Westminster High School. I found the Venture Crew when I went to the Maryland State Fair. I was surprised to find out that they only meet five minutes away from my house.

I'm so happy that I am in Crew. The meetings as well as the trips are amazing! The West Virginia trip was one of many trips that the

Crew has done. It was one of my first as a member. Rock climbing is now one of my hobbies.

Venture Crew is a co-ed, high-adventure, boy scouts in which teenagers run meetings to plan future trips to go on, as well as planning to get guest speakers in to teach us. We mostly get to learn about environmental issues from them (mountaintop removal was one).

The trips are a blast! We go on a big trip every year like a 100-mile canoe trip or a 40-mile back-packing trip to the Grand Tetons. Next year we are going to the Florida Keys to go Scuba diving.

I love it because I've created many friendships and get to travel all the time. Learning new things and having the responsibility of running the meetings is really great. I love IT! I have had a plethora of fantastic experiences in Crew.

I really didn't know much about mountaintop removal until we had the guest speaker come in. Eric Kazyak, the Crew

president, organized the meeting. I found out about mountaintop removal after the rock climbing trip but the trip made me really interested in the topic because I would be losing my hobby (rock climbing in the mountains).

I really only want 10 to 20 copies [of the newspaper] for my friends and family. They can't wait till it comes out. They are very proud. I feel so privileged! It just keeps getting better and better! I can't wait to see it. :)

Well now that I'm in an article, I can inspire people I don't even know

(Iona wrote back)  
Yes, we can inspire those we know and those we will never meet if our words and art and photos and work reach them somehow. And "somehow" is our job — to figure out how to reach them, how to touch their hearts.

(Kelly replied)  
The inspiring is more of the easy (part) for me, it's just the "somehow" that is tricky. It's a good thing I'm working with you. :)

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## Pennsylvania Association of Environmental Educators



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