

Genetically modified crops: 'Monster food' or a big step to feeding the world's hungry?

By SHARON SCHMICKLE

While hungry people from Haiti to Somalia rioted this month over food shortages and price increases, South Koreans protested the arrival of 63,000 tons of grain at their ports.

The grain was corn from the United States, likely grown in Minnesota or another Midwestern state. The objection was that it was genetically modified corn, something Korean processors had shunned throughout the decade-old controversy over fiddling with genes in food.

Now the looming global food crisis has rekindled that debate. Protesting Koreans called GM crops "monster food." Many scientists, however, call them a partial solution to threatening hunger in poor countries.

"It could get us a good part of the way if people would let us do it," said Ronald Phillips, a regents professor who holds the McKnight Presidential Chair in Genomics at the University of Minnesota.

The debate is all but settled in Minnesota's farm country. Last year, the state's farmers planted 92 percent of their soybeans and 86 percent of their corn to GM varieties, according to the U.S. Department of Agriculture.

But South Korea has company in its persistent backlash to the crops, especially in Europe. Indeed, staunch opposition remains in the United States, too, and some Minnesota farmers serve a robust market for foods labeled GM-free.

Scientists argue that only the well-fed can afford to be so picky about food that millions of people have eaten for a decade with-



MinnPost illustration by BRIAN BARBER

out getting sick.

"Nobody has even gotten a stomach ache from the food," Phillips said.

Famine's many fathers

No one is claiming that filling the empty rice bowls and grain bins around the world will be easy. Crop scientists would need to achieve a landing-a-man-on-Mars scale of a breakthrough to fully erase the long-term threat of hunger.

A prime reason hunger threatens now is skyrocketing demand driven by economic

upturns in China and India, home to one-third of the 6.6 billion people on Earth.

It was China's food-security worries that pushed South Korean processors this month to accept the shipment of GM corn. South Korea had relied on China for a good share of its corn for processed starch that goes into cookies, ice cream and other foods. But China recently limited corn exports to avoid domestic shortages.

continues on page 4

INSIDE

MINNPOST.WORLD

As John McCain waits to see who his Democratic rival will be this fall, the Arizona Republican may have to keep swatting at a couple of libertarians who didn't get the message – or, more accurately, who heard and rejected it. Former Rep. Bob Barr of Georgia announced Monday that he'll be running for president as a Libertarian. And a few in the media noted that Republican Rep. Ron Paul hasn't gone away.

page 2

PAUL NOLAN

E85's chicken-and-egg scenario.

page 3

MINNOV08

Minnesota's Internet tech crowd flexes its muscle.

page 5

COMMUNITY VOICES

New mining industry leaves Arrowhead wetlands vulnerable.

page 6

MINNPOST.WORLD

McCain facing more rivals: libertarians

By SUSAN ALBRIGHT

In the media's eyes it's been all Democrats, pretty much all the time, for some time. Sens. Barack Obama and Hillary Rodham Clinton have carried on a tooth-and-nail intramural battle long after Sen. John McCain sloughed off his rivals. This week, however, brought news that McCain may have to keep swatting at a couple of libertarians who didn't get the message – or, more accurately, who heard and rejected it.

As former Rep. Bob Barr of Georgia announced Monday that he'll be running for president as a Libertarian, a few in the media noted that Republican Rep. Ron Paul hasn't gone away. He's been waging local skirmishes all across the country – with an eye to making waves at the GOP convention come September.

For his part, Barr's announcement at the National Press Club in Washington generated both eye-rolling dismissal and words of caution. The Washington Post's Dana Milbank dripped derision in a "Washington Sketch" column, writing, "One of the reporters at the press club pointed out to Barr that there were only 30 or 40 people at his kickoff announcement (and half of those were reporters). 'Why are we going to believe your candidacy would be met with anything besides . . . universal apathy?' the questioner needled."

Milbank also listed a number of Barr's more colorful past actions and noted that "As one of the managers of Bill Clinton's impeachment, Barr gained enough prominence to attempt a run for the Senate in 2002. But that effort fell apart at about the time Barr accidentally fired a .38-caliber pistol through a glass door at a fundraising reception."

Barr 'taken more seriously for now'

In the New York Times blog The Opinionator, Tobin Harshaw was less contemptuous, writing on Monday, "While Paul has been a thorn in McCain's side ever since

he became the presumptive nominee, Barr seems to be the threat the G.O.P. is taking more seriously for now."

Harshaw quoted the Washington Times: "Former Rep. Bob Barr says a number of Republicans have been trying to persuade him not to run for president on the Libertarian Party ticket, but none has given him a convincing reason. Former House Speaker Newt Gingrich told The Times today that 'Bob Barr will make it marginally easier for Barack Obama to become president. That outcome threatens every libertarian value Barr professes to champion.'"

In the House of Representatives, Barr was a fiery conservative, particularly on moral issues. In the last few years, however, he's taken libertarian positions against the Bush administration, criticizing its war in Iraq, surveillance programs, assertions of presidential power and deficit spending – thereby showing certain affinities with Democrats as well. Now the Libertarian Party, which will hold its convention over the Memorial Day weekend, is expected to nominate him as its candidate for president.

Potential hurt for McCain – or Obama?

Johanna Neuman writes today in the Los Angeles Times, "Political commentators debated the impact of Barr's entry, with some arguing that, like Ralph Nader in 2000, who pulled votes away from Democrat Al Gore, Barr could pull enough votes away from Republican McCain in 2008 to give the Democrats the election.

"Barr confirmed that he was asked by McCain supporters not to run for fear he would pull votes from the GOP, but he defended his decision by saying that 'American voters deserve better than simply the lesser of two evils.' . . .

"But Christopher Barron, a Republican political consultant, thinks it is equally plausible that Barr could hurt Obama.

"I think Bob Barr's candidacy could impact the race – but I don't know at this point which candidate

he is likely to help or hurt,' he said. 'If Barr's candidacy is fueled by the same people who supported Ron Paul – college students, anti-war advocates and hard-core libertarians – then I think it is unlikely to hurt Sen. McCain in any significant way because these are not the type of voters McCain is reaching out to. I could actually envision a scenario under which Barr's candidacy actually helps McCain by siphoning off some of the enthusiasm among college voters and anti-war advocates for Obama.'"

Jackson Williams, writing on the Huffington Post blog, agreed with Barron. "Conventional wisdom says a Bob Barr Libertarian run for president will take votes from the Republican John McCain, and that's good for the Democratic nominee, but it's not that simple.

'Loony ... but articulate'

"Former federal prosecutor and Georgia congressman Barr can be loony, but he has turned into quite the articulate civil libertarian, opposed to everything from street cameras that take pictures of your license plate and then send you a speeding ticket, to the more onerous aspects of the Patriot Act. Plenty of Democrats feel the same way on these subjects. I know I do, although I wouldn't vote Barr for dog catcher."

Williams noted that "if Barr comes close to Ralph Nader's independent neighborhood of 2000, then he's hurting both major parties at the margins in a close race. . . . After all, Nader got only 2.7% of the vote nationally in 2000, but it was his 100,000 votes in tight-as-a-tick Florida that led to the election ending up at the Supreme Court.

"Democrats can't afford that happening again any more than Republicans can. We all need to watch Bob Barr."

As for Ron Paul, Andrew Malcolm reported in the Los Angeles Times blog, Top of the Ticket, that while attention has been focused on the Democrats, "in the meantime, quietly, largely under the radar of most people, the forces of

Rep. Ron Paul have been organizing across the country to stage an embarrassing public revolt against Sen. John McCain when Republicans gather for their national convention in Minnesota at the beginning of September."

Malcolm said that "what's been largely overlooked is Paul's candidacy as a reflection of a powerful lingering dissatisfaction with the Arizona senator among the party's most conservative conservatives. . . . In the last three months, Paul's forces, who donated \$34.5 million to his White House effort and upward of a million total votes, have . . . been fighting a series of guerrilla battles with party establishment officials at county and state conventions from Washington and Missouri to Maine and Mississippi. Their goal: to take control of local committees, boost their delegate totals and influence platform debates."

He continued: "Paul, for instance, favors a drastically reduced federal government, abolishing the Federal Reserve, ending the Iraq war immediately and withdrawing U.S. troops from abroad. They hope to demonstrate their disagreements with McCain vocally at the convention through platform fights and an attempt to get Paul a prominent speaking slot. Paul, who's running unopposed in his home Texas district for an 11th House term, still has some \$5 million in war funds and has instructed his followers that their struggle is not about a single election, but a long-term revolution for control of the Republican Party."

Of Paul's supporters, Malcolm observed: "So eager are they to follow their leader's words, that Paul's supporters have driven his new book, 'The Revolution: A Manifesto,' to the top of several bestseller lists."

No one knows how successful he'll be at GOP guerrilla warfare, but Minnesotans at least will have front-row seats for whatever convention action he can muster.

Susan Albright, a MinnPost managing editor, can be reached at salbright@minnpost.com.

E85's chicken-and-egg scenario



PAUL NOLAN

LAS VEGAS —

Recent reports that soaring gas prices have renewed American car buyers' interest in smaller, more fuel-efficient vehicles seems like a no-brainer. You have to really love your SUV to continue to pour a sizable portion of your paycheck into its tank.

But the goal of reducing the country's reliance on \$120-per-barrel petroleum won't begin and end with buying smaller vehicles and driving them less. Some of the minds behind the exploration for new transportation solutions are meeting here this week for the Alternative Fuels & Vehicles National Conference.

While the list of conference sponsors features heavyweights such as GM, Honda, Toyota and Ford, tomorrow's transportation solutions are just as likely to be introduced by some of the diverse "unknowns" that make up the bulk of the conference's 100 exhibitors.

Presentations throughout the four-day event focus on how scientific advancements can significantly change transportation worldwide. For now, however, E85, the corn-based, high blend of ethanol and gasoline, remains the only viable alternative fuel available to U.S. consumers.

E85 cheaper but harder to find

If motorists can find it, E85 continues to cost as much as 70 cents less per gallon than regular gasoline. But ethanol has become embroiled in a larger debate playing out in the media and Washington, D.C., about its impact on

the high cost of food worldwide and questions about just how eco-friendly it truly is. (Full disclosure: I am the editor of a trade publication that serves the ethanol industry called Ethanol Retailer.)

Supporters and detractors of ethanol both bring reams of statistics to bolster their side of the debate. For now, the two sides can only seem to agree to disagree.

The fact remains, if you own a flex-fuel vehicle (FFV) — the only type that is able to use E85 — you may have to drive far out of your way to find a gas station that sells it. And Minnesotans have it better than FFV owners in other states!

There are 338 gas stations that sell E85 in Minnesota, more than any other state, according to the Department of Commerce. That's up from 320 stations at the end of last year and 287 stations in 2006. (Motorists can find nearby pumps by visiting this website and entering their ZIP codes.)

Still, that's only 10 percent of the stations in the state, says Stacy Miller, an employee with the Minnesota Department of Commerce who manages a program that provides rebates to gas station owners who install E85 pumps.

Meanwhile, the Department of Commerce reports there are 175,000 FFVs registered in the state, up from 155,000 in 2006. That number can be misleading, however, because many owners of FFVs don't fill their vehicles with E85. Miller says some don't realize their vehicles are FFVs, while others claim it's inconvenient to find a station that pumps E85.

The Department of Commerce and the local chapter of the American Lung Association, which helps administer the E85

education and rebate program, want to increase both awareness and availability of the high ethanol blend.

State underwrites E85 pump conversions

Last year, the Legislature appropriated \$3 million for a two-year grant program that reimburses fuel retailers that install E85 pumps. Retailers can receive 75 percent of the total cost up to \$15,000. The average grant is \$8,000 to \$10,000. The U.S. Department of Energy provides an online list of state and federal incentives available.

Retailers can convert an existing pump — a premium blend that doesn't sell well, for example — to an E85 pump for about \$12,000. That cost covers cleaning the underground tank and upgrading the pump hose and other fixtures so that it's compatible with E85. Installing a new tank and pump can cost \$25,000 or more, which is why most retailers who do sell E85 have gone the conversion route.

Despite the financial assistance available to them, many retailers around the Twin Cities have taken a wait-and-see approach to installing an E85 pump. Their hesitancy has created a chicken-and-egg standoff: Retailers say they will install an E85 pump once consumer demand increases, while consumers say they will buy E85 when it's more convenient for them to find a station that sells it.

Steve Williams, a partner with his dad in Bobby & Steve's Auto World, which owns eight service stations around the Twin Cities, says they offer E85 at four of their stations, but don't sell enough of it to make him eager to install

E85 pumps at the remaining four stations. The first E85 pump they installed was paid for completely by subsidies. He received less in subsidies for his subsequent pumps.

Consultants from the ethanol industry say many fuel retailers secure fleet business prior to putting in an E85 pump. Many federal and state agencies are mandated to use E85 if it's available. The American Lung Association, which oversees the state's Clean Cities Program, tries to match fuel retailers that sell E85 with fleet business.

Tim Morse, director of the Fleet and Surplus Services Division of the state Department of Administration, oversees the "leasing" of about 1,800 vehicles to state agencies. Morse says about 1,200 of those are FFVs.

"Our state has a statutory requirement to use cleaner fuel whenever it's reasonably available," Morse says. What constitutes "reasonably available"? Morse says state employees fill up with E85 when it's within five miles of their headquarters or their planned route.

Last year, that fleet of state vehicles used 412,000 gallons of E85 and 5 million gallons of regular unleaded gasoline (which has 10 percent ethanol blended in by state mandate). That's means about 7.5 percent of its total fuel use was E85. Morse says the goal is to reduce regular gasoline use by 25 percent by 2010, but admits it's a lofty goal.

"You still need to do some planning to find E85," he says.

MinnPost inPrint

MinnPost in Print includes highlights of MinnPost.com, a new daily providing high-quality journalism for people everywhere who care about Minnesota. MinnPost in Print is distributed at selected locations in the Twin

Cities, but anyone can print a copy from a PDF available at www.minnpost.com. Visit the website for audio, videos and more stories. We believe that high-quality journalism is not just a consumer good; it's a community asset

that contributes to the health of our democracy and the quality of our lives. Please consider making a donation to MinnPost, a nonprofit enterprise.

Joel Kramer, CEO and editor

Genetically modified crops: 'Monster food' or a big step to feeding the world's hungry?

continued from page 1

Strapped for supplies, South Korean processors say they had no choice but to take GM corn, the Associated Press reported.

A second and related cause for food price spikes is soaring energy prices, making everything from tractor fuel to fertilizer more expensive.

Add weather to the list. Prolonged drought in Australia clipped wheat crops. The cyclone that devastated Myanmar hit where it could do lasting damage: in the rice-growing region. In longer-term scenarios, global warming plays havoc with yields.

The one cause that easily could be erased is the diversion of corn to ethanol, said C. Ford Runge, a professor of applied economics and law who directs the Center for International Food and Agricultural Policy at the University of Minnesota.

"The enormous volume of corn required by the ethanol industry is sending shock waves through the food system," Runge and Professor Benjamin Senauer wrote in an article published last year in *Foreign Affairs*.

"This might sound like nirvana to corn producers, but it is hardly that for consumers, especially in poor developing countries, who will be hit with a double shock if both food prices and oil prices stay high," they wrote.

Still, corn accounts for only a fraction of the food price spikes that are setting off riots. Globally, wheat prices have spurted 146 percent over last year. Rice is up about 29 percent.

Runge agrees that crop gains are needed, too.

"Of course, we should do everything we can to increase yields," Runge said in an interview. "We have been disinvesting in agricultural research for the last 15 or 20 years."

Regret over the neglect of agricultural research for developing countries echoed around the world last week.

Since the 1980s, aid from the United States and Europe for agricultural research has wilted to practically nothing, the journal *Nature* scolded.

The British-based journal said that a contributing factor was Europe's vehement rejection of GM crops, which "chilled research" and scared other countries away from the technology for fear of losing European markets.

On Wednesday, the European Union delayed a decision on allowing farmers there to grow new varieties of GM corn and potatoes, prompting the *Economist* to complain that the EU "continues to bully developing countries not to plant GM crops and this week refused permission to grow varieties of GM maize and GM potatoes in Europe."

Restart the Green Revolution

Between the 1940s and 1970s, Norman Borlaug and other scientists achieved huge gains in crop yields. Using conventional breeding tricks Borlaug had learned at the University of Minnesota, he manipulated the genes of wheat in Mexico's fields, added fertilizer and showed the world how to save millions from starvation.

Could scientists deploy the tools of genetic engineering to

do that again?

They already have on a small scale.

In Hawaii's papaya groves, a virus was deforming fruit and killing trees. Ringspot had slashed papaya output in half during the 1990s. Plant scientists inserted the gene for a protein that could resist the virus into papaya seeds and saved the crop. Today, the GM trees account for some 80 percent of Hawaii's papaya, the journal *Science* reported in April.

Despite the effective defeat of ringspot, criticism is fierce. Consumers in Japan and some other countries don't want the fruit.

A key objection is that GM papaya could infiltrate conventional groves. As consumers discard the seeds, they get around and impose the novel gene in places where it isn't welcome.

Such environmental concerns are one of the strongest remaining arguments against GM crops. Although 282 million acres in 23 countries have been planted to the crops with no reports of catastrophe, a team of U.S. biologists called last month for more data on where they have been grown — including maps showing the farm fields — so environmental impacts can be assessed.

Advocates for the crops argue that they are as green as Earth Day. One reason Minnesota growers embraced them is because farmers can target pesticides more precisely and get by with less tilling.

Meanwhile, the genetic research that brought forth the GM crops also has boosted conventional breeding to a new level of

precision.

When Phillips isn't on the university's St. Paul campus, he is as often as not in the Philippines, where he is a program chairman for the International Rice Research Institute and also serves on the board of trustees.

Scientists there have bred rice that withstands floods. The plants can be completely submerged for as long as two weeks.

"In flood-prone areas where some of the poorest people live, this could rival the gains of the Green Revolution," Phillips said.

The plants weren't genetically engineered. But they also weren't bred by the methods of Borlaug's era.

Then, it could have taken eight years to breed enough generations to stabilize a trait. Now it was done in less than three years, Phillips said, with the help of genetic markers that eliminated the guess work. The rice is set for release this year in flood-prone areas of Bangladesh, Vietnam and India.

A comparable breakthrough would be plants that tolerate drought. GM varieties are in the works for that. But it remains to be seen, Phillips said, whether the current food-price squeeze will open a path for them to reach poor farmers too.

"A lot of this comes down to economics," Phillips said. "When the economics start to hurt, then maybe it will be OK."

Sharon Schmickle writes about foreign affairs and science. She can be reached at sschmickle@minnpost.com.

Corn accounts for only a fraction of the food price spikes that are setting off riots. Globally, wheat prices have spurted 146 percent over last year. Rice is up about 29 percent.

MINNOV08

Minnesota's Internet tech crowd flexes its muscle

By GRAEME THICKINS

If one had any doubt about the intensity of our state's information technology and Internet community, one only had to be anywhere inside the U's Coffman Union on Saturday for the third annual Minnebar "unconference" (part of an international phenomenon called Barcamp). To say the joint was a-jumpin' simply does not suffice. And numbers alone don't tell the story (though attendance was an event record at 430). Rather, it was the intensity of energy through the entire day that could only impress one about this somewhat quiet, and definitely underrated, sector of Minnesota's economy.

I was there for at least 12 hours of the event — yes, it went on that long, and no one was complaining — and I can surely say that even the most skeptical of attendees who sacrificed part of their spring weekend were impressed with what they experienced, and left beaming with an elevated sense of pride in their industry. One needs only to scan the voluminous talk that went on in real-time — thanks to the magic of Twitter, and all archived here — to see that something big was happening in the Gopher State on this rainy fishing-opener Saturday. (In fact, Minnebar was ranked during the day as one of the top-five conversations going on in the entire, global "Twitterverse.")

Some key takeaways

As someone who attends many of these local gatherings and reports on several national Internet industry events as well each year, I can truly say I was impressed with the impact this event had, on so many levels. As I thought about it over the weekend, I realized I left with not only a much-renewed excitement for Minnesota's Internet technology and software community, but many great takeaways. Here are some of them:

- Networking is something our community needs more of, getting out from behind the keyboard and

meeting people, mixing it up. One panelist talked about the need for more "dense networks" as something Minnesota's tech community can learn from Silicon Valley. (That means local, national and social networking — everything.)

- Though we focus here in Minnesota on our own state/region, we must remember we're really in a global market, and we must constantly strive to be world class — not just to emulate other, better-known tech regions in the United States. We need to benchmark against the best, wherever they may be, and that can be anywhere, to build great companies.

- There's a real pride here in Minnesota. Techies love it here and don't want to leave! Many who did have returned. This is a strength that we can very definitely build on.

- We need to do more to connect the technology students on the East Bank with the great business students at the Carlson School on the West Bank.

Minnesota companies, products

It's important to remember that the Internet industry really started here back in the early '90s with the invention of the browser appropriately named Gopher. It flourished for a few years, but, alas, was disrupted by a little thing called Netscape (first called Mosaic) and soon was relegated to just a note in history. But our state's involvement in Internet development began thriving in the '90s and has continued in many ways ever since.

The industry has some notable local companies, who collectively employ thousands, such as Digital River, Internet Broadcasting, and Dow Jones' local operations (which began life as BigCharts and was soon acquired by MarketWatch), not to mention Minnesota being home to top-50 e-commerce destinations like BestBuy.com, Target.com, and ShopNBC. But the core of Minnesota's Internet industry are the developers, designers,

engineers and other technologists, marketers and entrepreneurs who gathered on Saturday at Minnebar, and the many hundreds of smaller entities many of them work for, plus the many new startups and products they are building, or just beginning to plot in their minds.

What do the attendees do all day, throughout the many meeting rooms in the wonderful new Coffman Union? Well, the event, organized by volunteer developers Ben Edwards and Luke Franc (and anyone they could get to help them), featured 40 sessions, all proposed and led by attendees themselves, on a wide variety of technical, design, business and marketing topics, as we blogged about last week here. Several sponsors, who picked up the tab for everything, included the U of M's Software Engineering Center (the venue sponsor), Split Rock Partners, SwarmCast, FindLaw, SierraBravo, and ipHouse.

Probably the biggest highlight of the day was the noon panel on The State of Technology in Minnesota (see the above post for audio link). The panelists' best points — looking back at my notes (actually my live Twitters!) — were these:

- Matt Dornquist, founder of Code42, said, "We're too risk-averse here ... we need to knock down those tendencies." He admonished the developers in the audience to just get going, saying that open source software lets them do that. Asked what area is the hottest now, he said, "There's nothing like mobile." He noted the iPhone will be a huge platform, very rich with opportunity.

- Jamie Thinglestad, who just left as chief technology officer of the local Dow Jones online operations, said open source is a new way of looking at developing software products. "We need to move beyond 'place' as being important. Open source is about passion." He says he gets asked all the time if a firm can really build a development shop in Minnesota, "as if we're sitting in a cornfield." He said the tal-

ent here is very good.

- Doug Olson, GM of a Twin Cities-based Microsoft development group, told attendees, "It doesn't take a lot of money today to make software. It takes guts and boldness -- you have to take that risk!" Olson said the development shop he set up here for Authorware/Macromedia (based in Arden Hills) was still going strong for Adobe, many years later.

- Robert Stephens, founder of Geek Squad (until, as he said, "We acquired Best Buy"), said big companies need to be trying out more \$500 ideas. That's how they all started, but they've forgotten how to do that." Robert also announced that Geek Squad will be the sole sponsor of Twin Cities Public Television's "Make" show starting this fall, which will help teach younger kids about how to tinker with and build technology products and experiments.)

- Dan Grigsby, a locally based serial Internet entrepreneur who worked in Silicon Valley for several years and is now consulting and blogging at Unpossible.com, spoke eloquently about how our community "needs better startup business people." And, in that vein, he said he will be teaching a U of M class this fall on software entrepreneurship.

- Michael Gorman, of Split Rock Partners, said his firm has invested \$300 million in all types of Minnesota companies. He said our state is the Silicon Valley of medical device technology but doesn't have any large IT companies here anymore, such as Cray, Control Data and Unisys. He wonders if firms like Digital River can help pick up that slack, but also spoke of the need to develop "denser networks" to better support our IT and Internet startup ecosystem.

As the day progressed, however, it became apparent that it was really the networking — the interchange between the attendees — that was surpassing even knowledge-sharing as the most valuable benefit for most of the attendees.

COMMUNITY VOICES

New mining industry leaves Arrowhead wetlands vulnerable

By ELANNE PALCICH

In the late 1800s, the U.S. government claimed the land of Minnesota, and pushed the indigenous people onto reservations. The huge pine forests of northern Minnesota were cut, red earth was discovered, and immigrants from a variety of struggling northern and southern European nations moved in to become workers for the mining companies.

While the Iron Range continues to be mined, following bands of taconite rock, the Arrowhead region of Minnesota escaped the mining process. Some of the northern counties were in large part wetlands, while others remained forestland. The Arrowhead region became known for its lakes and for the quality of outdoor recreational opportunities — the vacation land of the north, where campers “hear the lapping waters, hear the whispering of the pine trees.”

These northern wetlands escaped the destruction that occurred as the rest of the state turned urban or agricultural.

Scientists know that wetlands have evolved over the past 10,000 years, since the recession of the last glaciers. We also know now that wetlands sequester carbon — and that destroying wetlands releases carbon that has been stored over centuries. There is evidence that global climate change is literally being fueled by the burning of fossil fuels and the accompanying release of CO2 into the air.

Minnesota’s wetlands may hold the key to moderating

climate change on a local level, except for one thing: the threat of an entirely new mining industry poised to begin in the Arrowhead.

The industrialization of the burgeoning populations of China and India is driving demand and prices for copper, nickel, platinum, and gold — precious metals bonded within sulfide ores throughout the Duluth Complex, the underlying rock formation of the Arrowhead Region.

These precious metals are very low grade — 0.4 percent copper, 0.1 percent nickel and 0.01 ounces per ton of platinum, palladium, and gold. But the current price is enough to bring a half-dozen Canadian companies into the Arrowhead, exploring in an unregulated fashion and pulling every political string for funding and support.

The international balance of economic power is changing. Just three generations after the take-over of native lands by extractive industries, Canadian companies are seeking to turn the remaining Arrowhead Region into a colonial outpost for China and India. For basically a handful of jobs, we are turning over our land and our culture so that Canadian companies and their shareholders can earn fantastic sums on precious metals while our workers will receive \$40,000-a-year nonunion wages (translate into no pension and no health care) based on the price of copper. And when the price of copper drops, or the precious-metals market collapses, or the price of diesel fuel makes mining uneconomical, the Canadian

companies will pull up stakes and leave northern Minnesota with an acid-mine drainage problem requiring perpetual treatment — almost forever.

No way to replace lost wetlands

The Arrowhead region of northern Minnesota is our Arctic National Wildlife Refuge. It’s our Brazilian rainforest. It is the equivalent of the remaining special places left on each continent, in each country. When we lose our wetlands, there is no way to replace them. There is no way to reconstruct a process that took thousands of years to form. There is no way to recapture the carbon released when wetlands are destroyed. There is no way to rebuild the wildlife habitat and plant communities that will be eliminated.

At the same time, this new mining industry would spew hundreds of thousands of tons of CO2 into the air, further contributing to global warming.

Consider, too, that the Arrowhead is just the first piece of the metallic sulfide pie. While exploration is progressing in the Birch Lake area, along the Kawishiwi River, Partridge River, and the St. Louis River, companies are also exploring along the Rainy, Pigeon, Root, Minnesota and Mississippi Rivers, the Mille Lacs area, in the Big Sandy Watershed (Aitkin County), and in Carlton County.

Bill would set a precedent

In the meantime, U.S. 8th District Rep. James Oberstar has introduced a bill in Con-

gress (H.R. 4292, the Superior National Forest Land Adjustment Act of 2007) that would fast track a land sale between the U.S. Forest Service and Polymet, Inc., in anticipation of the permitting of Polymet’s proposed metallic sulfide mine near Hoyt Lakes. While this bill singles out Polymet for special treatment, it would also set a precedent for the selling of public lands to private mining companies nationwide, or whenever the Forest Service does not own the mineral rights. Much of the mineral estate in Superior National Forest and the Boundary Waters is owned by mining interests, not the Forest Service. What implications might this have for the future?

What exactly are those of us living here thinking? Are we in denial regarding the ecological degradation that is taking place on a global scale and how this is going to affect our future? Are we naive enough to believe propaganda about clean mining technology that is being pushed upon us by mining-company spokesmen who are set to receive huge bonuses once the sulfide industry gets up and running?

Or are we going to believe in our own ability to create an alternative future that allows us to finally acknowledge the true heritage of the Arrowhead Region — that of living in harmony with the land?

Elanne Palcich, a retired elementary school teacher, lives in Chisholm, Minn.

Want to add your voice?

If you’re interested in joining the discussion by writing a Community Voices article, email Susan Albright at salbright@minnpost.com.