

OZARK SIERRAN

One Earth One Chance

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Another Bright Idea from a Dim Bulb



by Ken Midkiff, Chapter Conservation Chair

The Bush Administration's proposal to sell off several hundred thousand (at various times ranging from 150,000 to 300,000) acres of national forest lands is a difficult sell to his base. Even such stalwart Bush-supporters as Kit Bond, Jim Talent, and Joanne Emerson have expressed concerns or even outright opposition. Representatives Blunt and Hulshof have been coy, but it is telling that they haven't taken a public position.

The National Sierra Club and the Ozark Chapter have NOT been coy: We are adamantly and assertively OPPOSED to this rather naive proposal.

In states other than Missouri, outright opposition by U.S. Senators and Representatives has been expressed—even in states such as Idaho where, as best can be determined, no tracts of public lands were on the auction

block, U.S. Senators Larry Craig and Dewey Crapo have stated they're opposed.

Why? Well, for one thing it is just a really bad economic idea. To sell off 21,566 acres of public lands in Missouri to benefit rural schools in Oregon doesn't set real well with those who look out for the interests of their constituents. As it is now, local counties in Missouri receive considerable amounts of money from the Mark Twain National Forest. Contrary to claims by Bush, there are "PILT" (Payment in Lieu of Taxes) funds that swell local larders. In addition, local counties obtain considerable percentages of profit from timber sales and mining royalties collected by the Forest Service from public lands located in the counties.

But, the sale of public lands isn't tied to the counties in which the lands are located. Rather the proceeds of the sales would go into the U.S. Treasury and then would go to rural school districts that are in dire financial straits. If lands are sold in Shannon County, it is likely that Winona or Eminence school districts wouldn't see a dime. This is instead a one-time windfall for rural school districts in the Pacific



View from Hercules Glades Lookout Tower (Taney County, Mark Twain National Forest)

photo by Charles Midkiff

Northwest. Once this windfall is spent, that's it. No more PILT, no more percentage of profits.

If this dumb idea should come to fruition (which doesn't seem very likely at this point), a horrible prece-

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On Decision-Making in the Ozark Chapter

by Jim Turner, Chapter ExCom



In July 2005 I was one of three persons added to Missouri Ozark Chapter Conservation Committee. In January 2006 I also began service on our chapter's Executive Committee. I've also had a few occasions to consult on the Legislative Committee's LISTSERV.

I've found these committees very receptive to input from all their members, both on the listserves and during meetings. Collectively, a lot of time and thought goes into determining Ozark Chapter's positions on issues and how to express them.

If you are feeling like you want to become more involved with your Missouri Sierra Club, here are descriptions of what Chapter leaders do.

In general the Executive Committee members understand and promote the mission of the Sierra Club. Led by the Chapter Chair, the ExComm works with a team of volunteer activists and the Chapter Director, Carla Klein, to provide leadership and vision within the state wide Missouri Chapter of the Sierra Club. Among other activities, the ExComm members attend bi-monthly meetings, participate in long range planning and assist the Chapter Development Coordinator in fundraising activities.

The Chapter Conservation Committee is guided by the Chapter Conservation Chair to motivate and direct the conservation work of the Chapter. The Chapter Director along with the Conservation Chair work with the Conservation Committee to identify and delegate activities related to the conservation goals of the Missouri Chapter. The Conservation Committee works with the Chair, ExComm and Director to provide the

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OZARK SIERRAN

The published deadline is the real, honest-to-goodness, drop-dead deadline—not a couple of days or a week later!

Submissions received after the deadline are

subject to the possibility they won't appear in the issue: you will feel bad and we will feel bad. Call us nasty, but we are determined this newsletter will come out on time!

The **OZARK SIERRAN** is produced on a Macintosh computer, so we strongly prefer to receive material electronically (E-mail), or on a CD, **WITH A HARD COPY OF THE TEXT**. Typed articles are also OK (must be received a few days before the deadline). All submissions must include name, address, and phone number of the author. If you want your submission returned (including your CD), please include a SASE.

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Reproduction quality photographs (prints) or artwork are dearly welcome. Please: send us photos...

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Dates You Need to Know

April 4 Conservation Lobby Day, Jefferson City

May 28 Submission deadline, July-September Ozark Sierran

June 3 Chapter ConsCom meeting: Kansas City, contact Ken Midkiff, kmidkiff@mchsi.com

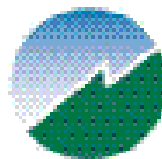
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Club's Grassroots "Cool Cities" Efforts Gather Momentum

by the Eastern Missouri Group Energy Committee

Reducing energy consumption in our communities can reduce or even eliminate the need for dirty, expensive new coal-burning power plants that dump tons of air and global warming pollution into our environment.

That's one reason why the Club's Cool Cities campaign, to solve global warming one city at a time, has taken off both here in Missouri and around the country.

What's Cool Cities? In a nutshell, Cool Cities is a campaign that takes the "act locally" approach to global warming. It frames practical solutions under three headings: Energy Efficiency, Renewable Energy, and Green Car Fleets. And it draws on proven examples. By looking at how cities around the country are already reducing their dependence on coal, oil, and natural gas, we can duplicate those solutions, and more, in our own communities.

The cornerstone of Cool Cities is the U.S. Mayors' Climate Protection Agreement. The agreement, initiated by Seattle Mayor Greg Nickels last year, is a pledge which mirrors the international Kyoto Treaty on climate change. It calls for citywide carbon dioxide reductions of 7 percent below 1990 levels by 2012.

The Agreement offers something for every city no matter how large or small by suggesting a wide array of actions to choose from. (See excerpted Agreement, sidebar). By early February this year, 210 mayors from 38 states representing 42.5 million Americans had signed the pledge and are in the process of developing action plans and implementing energy-saving measures which also save taxpayer dollars.

At press time, seven Missouri mayors were on board, thanks to the Sierra Club's grassroots efforts. Here's how the EMG Energy Committee did it—and how you can get your mayor to take action.

First, at numerous Club meetings and at community events where the Sierra Club has a table or booth, volunteer energy activists have asked literally hundreds of citizens to sign letters asking their mayor to sign onto the Agreement. After sorting them by city, we mailed those letters to the mayors with a copy of the Agreement to sign.

Individual volunteers then followed up with phone

calls to their own mayors. They explained what the Agreement is and provided additional information such as the Sierra Club's informative, full-color "Cool Cities" guide and website: <http://www.sierraclub.org/global-warming/coolcities>.

In several cases, volunteers have had face-to-face meetings with their mayors or the mayor's staff. Sometimes, volunteers have asked influential community leaders to get involved, such as pastors of churches, business owners, and education or health representatives.

To bring in greater expertise on specific solutions and to create even broader community support, we have joined forces with partners like the U.S. Green Building Council of Greater St. Louis, Missouri Coalition for the Environment, and the St. Louis Community Air Project.

And we are using media strategically: we've generated a number of news stories about mayors signing the Agreement, urging other mayors to follow suit. News stories not only develop broader public awareness, they can also influence mayors who are considering joining the effort.

The result of this strategy? In St. Louis alone, the mayors of St. Louis City, Clayton, University City, Florissant, Maplewood, and Sunset Hills have signed onto the U.S. Mayors' Climate Protection Agreement, and many other mayors are seriously considering it. We haven't stopped there; to underscore the need for action, we continue to send these mayors "Thank-you" and "Reminder" letters, urging them to implement specific energy-saving measures. We plan to hold an Earth Day news event to thank these mayors for their leadership and highlight the cities' action plans.

In Kansas City, too, energy activists are helping to develop a strong action plan that reduces the city's energy consumption and the need for a new coal-burning power plant.

To some, global warming seems overwhelming. The key is thinking globally and acting locally, starting with our own communities. By working together to accomplish clearly-defined goals, we can turn wishes into reality. Successful campaigns breed more success, inspiring others to work toward solutions.

Make your city a Cool City! For helpful materials and resources, please go to <http://missouri.sierraclub.org>.



The U.S. Mayors Climate Protection Agreement (abbreviated)

We will strive to meet or exceed Kyoto Protocol targets for reducing global warming pollution by taking actions in our own operations and communities such as:

Inventory global warming emissions in City operations and in the community, set reduction targets and create an action plan.

Adopt and enforce land-use policies that reduce sprawl, preserve open space, and create compact, walkable urban communities;

Promote transportation options such as bicycle trails, commute trip reduction programs, incentives for car pooling and public transit;

Increase the use of clean, alternative energy by, for example, investing in "green tags", advocating for the development of renewable energy resources, and recovering landfill methane for energy production;

Make energy efficiency a priority through building code improvements, retrofitting city facilities with energy efficient lighting and urging employees to conserve energy and save money;

Purchase only Energy Star equipment and appliances for City use;

Practice and promote sustainable building practices using the U.S. Green Building Council's LEED program or a similar system;

Increase the average fuel efficiency of municipal fleet vehicles; reduce the number of vehicles; launch an employee education program including anti-idling messages; convert diesel vehicles to bio-diesel;

Evaluate opportunities to increase pump efficiency in water and wastewater systems; recover wastewater treatment methane for energy production;

Increase recycling rates in City operations and in the community;

Maintain healthy urban forests; promote tree planting to increase shading and to absorb CO₂; and

Help educate the public, schools, other jurisdictions, professional associations, business and industry about reducing global warming pollution.

To read the full agreement and get the sign-on page to give to your own mayor, please go to <http://seattle.gov/mayor/climate>, or email jill.miller@sierraclub.org.

Invest in Missouri's future

Are you worried about our children's environmental future?

Look for Missouri Sierra Club's fundraising letter in the mail during the month of March and return your generous contribution right away.

Your financial contribution will help your Missouri Sierra Club shape public policy and protect the best of Missouri for our children.

Missouri Sierra Club receives some support from the Sierra Club at the national level; however, our core funding must be raised from our members and supporters right here in Missouri.

Mercury Threat from New Kansas Coal Plants



by Craig Volland, Air Quality Committee Chair, Kansas Chapter

Electric Power Producers in Kansas are planning to add some 3000 megawatts of new coal burning capacity by 2012. In addition KCP&L has recently received a permit (being appealed) to add 1050 MW in coal burning capacity at their Iatan site just north of the KC metro area near Weston, MO. To put this in perspective, Westar's existing coal-fired generating capacity is 2638 MW and their total capacity, including nuclear, oil and natural gas is about 5800 MW.

The reason for this rush to burn coal is the soaring price of natural gas combined with the state's proximity to relatively cheap Wyoming coal, though this coal is not at all cheap if the true costs of using it were accounted for. Power producers have little interest in aggressive campaigns to help customers reduce demand, and they are reluctant to take advantage of the vast wind resources in central and western Kansas.

So why should we care? Well there are tens of millions of tons of greenhouse gases that will increase global warming, increased fine particles that have been shown in the last 20 years to increase death rates particularly among the elderly and infirm and increased precursors to ozone smog which also increases mortality and aggravates certain chronic diseases like asthma. For now though, I'll focus on mercury pollution. Mercury that was absorbed by ancient plants millions of years ago and pressed into coal is about to make a redux into our atmosphere. The rush to burn huge quantities of Wyoming coal becomes a special problem for down winders in the eastern third of the state.

People can easily get confused about mercury. Why is it such a concern? After all, I played with the silvery elemental mercury when I was a kid, and I'm still here. Well, it all depends on which type of mercury you are exposed to and how it enters your body.

Elemental mercury is the only metal that is a liquid at room temperature. It doesn't exist in nature in the form we played with. Primarily because it is useful in processing gold, humans have, for many centuries, dug mercury out of the earth, where it was perfectly happy married to sulfur in cinnabar ore, and then drove it off with heat. This lonely substance takes every opportunity to escape and find its way back home by attaching to carbon and/or sulfur in plants or in the soil, to eventually become buried in sediment where it can go out of the ecosystem undisturbed.

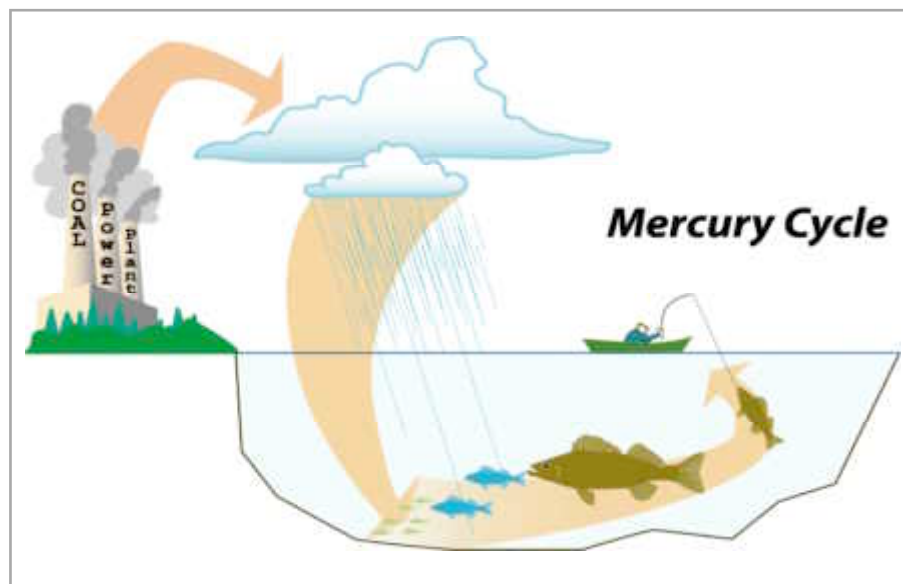
Our problem is that it wreaks havoc all along the way, by flirting with other elements or compounds that are highly toxic to humans. The worst thing we can do is to send this chemical in vapor form out of a tall stack so it can spread evenly over the landscape and wash into streams and lakes. Mercury falls out primarily in rain.

Elemental mercury is almost insoluble. If you swallow it, almost all passes on through. But if you breathe it in vapor form it is absorbed into your bloodstream and can get into the brain where it does its damage. One normally is not exposed to enough mercury in the air to get hurt. It's a particular mercury compound that causes the problem.

Mercury is most toxic to the human fetus. In 2004

the USEPA announced that one in six women of child bearing age have levels of mercury in their blood that could be toxic to a fetus. How did this happen? Mercury exits a smoke stack and falls into or is washed into both fresh and marine water bodies where it can be transformed by bacteria into methyl mercury. Methyl mercury is taken up by fish and concentrates in those fish species at the top of the food chain. When ingested the methyl mercury, unlike elemental mercury, is taken up by the digestive system and even more easily gets into the brain. Methyl mercury is one of the most potent neurotoxins known. It is so toxic that fish are considered contaminated if they contain less than one half of one part per million of the fish's weight.

Few Americans eat a significant amount of freshwater fish. However, they do eat a lot of seafood and that's where the vast majority of our mercury body burden comes from. We have so polluted the world's oceans that mercury levels are now beyond the threshold of harm such that any more consumption by certain people, like pregnant women can be harmful. Also relatively small subsets of our population like anglers and poor (often rural) people who rely on freshwater fish in their diet are



especially at risk.

Coal fired power plants are the largest source of mercury in this country. The USEPA last year issued new regulations, called the Mercury Rule. EPA set an emission limit that was designed to let power producers off the hook until 2010. Then they can participate in a "cap and trade" program until 2018 at which time the total of US mercury emissions is supposed to be down by about 65 percent from current levels. Fifteen states are suing the EPA because they believe the cleanup will take too long, and the cap and trade program could lead to concentrations of emissions or "hot spots" in parts of the country. All of Missouri's lakes and streams are already under a public health advisory for mercury in fish. Levels in Kansas have been shown to be rising in recent tests.

EPA tried to justify their extraordinarily complicated and industry-friendly Mercury Rule by claiming that only eight percent of the wet deposition of mercury nationwide comes from US power plants. The rest floats in from foreign sources. Even if that were true, it doesn't matter because the vast majority of mercury now lodged in people's brains comes from seafood, much of it imported from all over the world. So our mercury emissions can come back to us in a can of tuna from Thailand.

But a new study has blown EPA's claim out of the

water. Researcher found that 70 percent of mercury found in rainwater in Ohio came from nearby coal burning industrial plants. So no matter where our lonely, promiscuous little mercury vapor comes from, or ends up, it's trouble.

That what we get for digging up billions of tons of coal across the world in the past 150 years, a mere blip in geologic time. Add to that all the mined mercury in batteries, pigments and electrical switches we burned in garbage incinerators. Had humans been exposed to methyl mercury gradually over tens of thousands of years we might have developed defense mechanisms in our bodies. For example dolphins and whales, at the top of the marine food chain, have been exposed for a very long time and consequently can tolerate much higher body burdens of mercury. We have become victims, again, of our voracious appetite for energy.

Anyway, back to power plants. It turns out that utilities that burn eastern US coal can get about a 90 percent reduction of mercury by installing the same equipment they soon will have to install anyway to remove acid gases. That's because eastern bituminous coal contains a significant amount of chlorine. Mercury quickly combines with chlorine in flue gases to form mercuric chloride which is very soluble and easily removed by scrubbers. Wyoming coal, on the other hand, contains very little chlorine, and less than 25 percent of the mercury can be removed by the dry-type scrubbers used out west. So what may happen is that utilities burning Wyoming coal will buy the excess credits (the right to pollute) from eastern utilities and eastern Kansas and Missouri could become a mercury "hot spot."

The largest chunk of the new capacity in Kansas will be three new boilers totaling 1950 MW planned by Sunflower Electric at their existing Holcomb, KS site near Garden City. Most of this power will be sold to customers in Colorado. The others plants are planned by Westar at 650-800 MW and by the Bureau of Public Utilities in Kansas City, Kansas at 250-300 MW.

Mercury removal tests at Sunflower's 360 MW Holcomb 1 coal fired power plant, co-

sponsored by Westar and BPU, demonstrated that injecting carbon into the flue gas from burning Wyoming coal would remove over 90 percent of the mercury. In another, short term experiment, Sunflower mixed in some bituminous (presumably high chlorine) coal from Colorado and got up to 80 percent removal. Nonetheless Sunflower has not yet committed in their permit application to a tight mercury limit.

If they don't, and instead choose to buy mercury emission credits, a large quantity of mercury will travel on the prevailing winds to eastern Kansas, where it rains much more frequently, and to points east and north. Westar and BPU haven't said what they plan to do about mercury. Fortunately, after much citizen pressure, KCP&L agreed to avoid increasing mercury emissions at Iatan, though it will remain a significant source.

If you want to keep eastern Kansas from becoming mercury hot spot you need to contact your legislators and express your concern about this new wave of coal-fired power plant construction in Kansas. Mercury is only one of many reasons why we shouldn't be burning more coal. ☺

Conservation Lobby Day 2006! April 4th

The Sierra Club is joining with other environmental organizations to sponsor Conservation Lobby Day. Last year's event was a success because of the broad base of environmental and conservation organizations that took part. This year we hope to double the attendance.

This is an excellent opportunity to meet with your elected officials to discuss the importance of environmental protection and conservation for Missouri. There are several critical issues and programs working their way through the legislative process. The timing of our Conservation Lobby Day should fall at a time when serious conservation and environmental issues will have critical votes. Please plan to attend and **bring a friend**.

Conservation Lobby Day
April 4th, 2004 from 10:30 am to 3:00 pm
at Missouri's State Capitol in House Hearing Room 2
Let your elected officials know about issues of importance to you.

Please RSVP to if you are planning to attend. You will receive an information packet with event details. To register or for more information call the Sierra Club office at 1(800) 628-5333 or email us at ozark.chapter@sierraclub.org. You can visit our website to check out the legislative bills we are currently tracking, visit <http://missouri.sierraclub.org> and select Green Report Track Legislation.

Land Sale....continued from page 1

dent would be set: Any time the federal treasury can't pay for something, just unload a few thousand acres of public lands. What's next? More National Forest Lands? National Parks? National Monuments? BLM lands? This whole notion makes little sense when it is realized that one reason the national money pit is do empty is that rich folks get tax breaks.

This is also a bad idea in terms of reducing access to public lands. This affects everyone: hikers, mushroom gatherers, hunters, anglers and solitude seekers. Right now, there is less than five percent of Missouri's total acreage in public ownership.

That's everything. State lands—Conservation, State Parks, University of Missouri—and all federal lands—national forests, wildlife refuges, and national monuments.

That means that over 95 percent of the lands in Missouri are in private ownership, and most private owners don't allow public access. It is always gratifying to see those "Welcome" signs at the boundaries of the Mark Twain National Forest. No locking out the public. To the contrary, all are welcome to enter.

There is little doubt that isolated tracts of national forest lands are difficult to manage. The Cedar Creek District of the Mark Twain National Forest has its headquarters in Fulton. To get from Fulton to public lands in Boone County involves a distance of about 50 miles one way and a trip on I-70 or YY. But, the public lands in Boone County—some of which are proposed for sale—are highly valued by folks in that urbanizing county.

Fragmentation is the name of the game in the Mark Twain National Forest. Most of the lands were

acquired by the federal government after being clearcut and abandoned in the early 1900s. Other lands were donated. Yet others were purchased via a "willing seller/willing buyer" arrangement, with real estate agents, attorneys and the like. All of this means there are very few large blocks of land in the Mark Twain.

The lands in Callaway and Boone County are examples of this. With the notable exception of the National Forest lands in and around the Pine Ridge Campground, most of the 15,000 acres of the Cedar Creek District are fragmented and isolated. No doubt these are difficult to manage. Consolidations through

land swaps are relatively common and generally speaking the Ozark Chapter of the Sierra Club has not opposed value-for-value trades that consolidated National Forest lands. But, once the lands are sold, the public value for such trades is lost—forever.

Finally, and foremost for environmental, conservation, and hunter/angler groups the public lands are valuable for wildlife resources. The public lands are havens for deer, turkey, bobcat, and other deep-woods denizens. Some public lands are thick with wildflowers. Such could occur on

private lands, but most owners of private lands try to do things that are profitable. There's not much profit in deer, turkey, or wildflowers—and these things don't do well in subdivisions or clearcuts.

The rural school districts in the Pacific Northwest are in dire straits. No doubt some financial aid is needed. But selling off the public lands is NOT the way to help them.

It is hoped that this really stupid idea will be placed on the shelf where it will gather dust for years. Better to gather dust than to sell off our nation's valued resources. ☹



Chapter Decision-making.....continued from page 1

Chapter with a long range vision of the Chapter's conservation strategy and priorities.

The Legislative Committee works directly with the Chapter Chair who is the lobbyist for the Sierra Club. They read and discuss bills introduced every year in the Missouri legislature. They decide on Sierra Club positions on these bills and work with the lobbyist to compose testimony for hearings and talking points to send out to members in the form of Legislative Listserv alerts.

These committees meet bimonthly in St. Louis, Columbia, Kansas City, or Cape Girardeau. Because our listserves keep members informed and involved, much is efficiently accomplished at these meetings. Even so, a Conservation Committee meeting typically takes six hours, with enough time spent on

each issue so that all members and visitors have a good basis for understanding it. A potluck supper after each meeting provides additional opportunities to discuss matters. Various Ozark Chapter members do attend the meetings of the Conservation Committee and the Executive Committee, and we urge you to attend when you can. The more members involved in our thinking, the better! Here's a list of the times and locations for our 2006 meetings:

June 3/4 – Kansas City

July 15/16 – Columbia

Sept 23/24 – Cape Girardeau

Nov 11/12 – St. Louis

Jan 27/28, 2007 – Columbia

In these times when the environment is being strained by many deplorable economic and governmental decisions, more than committee work is needed—important decisions also are needed at Ozark Chapter's grassroots. Consumers and voters can be persuaded by Ozark Chapter's statements, but it's also necessary that they be influenced by the demonstrated beliefs of their local Sierra Club members—people they already know through shared work in various local clubs, religious congregations, etc. We need to write letters to editors, help circulate petitions when needed, and help the campaigns

of candidates who will protect the environment (legislators are especially influenced by the views of the persons who have stuffed envelopes etc. in their campaigns). Your interest in serving on committees of our Groups and of Ozark Chapter also will be appreciated.

We also hope that you will make thoughtful donations to help the work of Ozark Chapter. During our committee meetings, our Chapter Development Associate, Melissa Blakley, has been showing the materials she's developing, to better tell the stories of Ozark Chapter's accomplishments and goals. You're seeing some of her works in these newsletters, and she'll be glad to correspond with individual members and to arrange visits to discuss targeted donations.

With high gas prices and strong hurricanes nowadays, you'd think the public would now better respect

the environment. But complacency is a strong habit. Jared Diamond's book *Collapase* shows how hard it is for societies to restrain resource-grabbers and sustain the societies' environmental bases. It will take much American ingenuity to tame our culture of "consume at any cost." Lots of us must step up to a higher level of care for our good Earth, and set a good visible example. Please recognize that this is a pivotal time for Earth, and act accordingly! ☹



Ozark Chapter ExCom meeting.
photo by Carla Klein

The Republican War on Science



by Alan Journet, Conservation Chair, Trail of Tears Group

In a well-publicized response to *Wall Street Journal* reporter Ron Suskind's questioning about foreign policy, a White House Aid interjected the criticism that guys like him were mistakenly living "in what we call the reality-based community" which he criticized as the "belie[f] that solutions emerge from your judicious study of discernible reality." The aide continued his criticism by asserting "That's not the way the world really works anymore. We're an empire now, and when we act we create our own reality." Although this comment casts considerable and frightening light on many aspects of Bush foreign policy, it also reveals much about the attitude that this White House and the Republican Congress have about science and the role sound science and consensus scientific opinion should play (or not play) in guiding federal policies and procedures.

Most Americans think that government policies dealing with health, safety, and environmental protection should be based on the best available scientific evidence. Some politicians, however, believe that a pre-determined political philosophy should dictate decisions and science should be used as just another weapon in the arsenal for achieving political victory. Unfortunately, as Chris Mooney points out in *The Republican War On Science* (2005 Basic Books, New York 342 pp) both the Administration of George W. Bush and many Republicans in Congress have rejected the reasonable approach favored by most Americans and have adopted the politicized latter approach.

In the sleeve notes Republican Russell Train, Environmental Protection Agency director under Presidents Nixon and Ford, pointed out that Americans who value intellectual honesty and civility in our national affairs and who care about the nation's future should read "Mooney's exposure of the cynical collusion of special business interests with the anti-intellectualism of the religious right..."

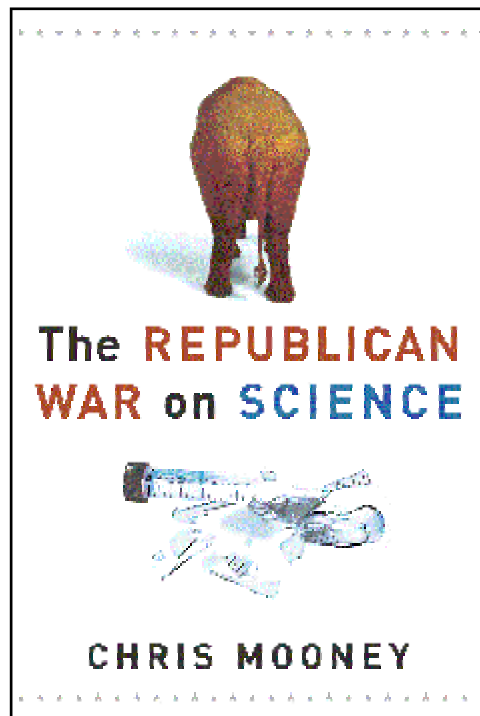
Early in the book, Mooney points out that the notion of having a science advisor in the White House was introduced by Republican President Eisenhower, and has been maintained by Presidents of both parties since. He argues, however, that George W. Bush does not follow this pattern enthusiastically. Bush, he argues, is no Republican "moderate" but rather represents the "modern" brand of conservatism—the group known as neo-conservatives. The rise to power of these neo-cons, Mooney suggests, is based on the endorsement of industry which would co-opt "science" to thwart environmental regulations, and the religious right which would co-opt "science" to bolster a moralistic agenda.

The anti-intellectualism central to the Bush approach is characterized by Bush advisor Karl Rove's sneering definition of a democrat as "someone with a doctorate." In response to the tendency for environmentalists to rely on the scientific research that emanates from institutions of higher education, the neo-cons frequently find themselves at odds with the consensus judgment of scientific experts. They resort to describing research that produces results they do not like as "junk science" and only laud as "sound science" research that supports them. While Mooney acknowledges that Liberals and the left have to answer for some scientific abuses, he suggests that this represents a drop in the bucket compared to the assault on science of the right. Since science requires a dynamic philosophy that challenges orthodoxy, while conservatism represents a resistance to change, Mooney suggests that there is an inevitable conflict between the two.

One approach industry has taken to counter research that threatens profits by suggesting the need for regula-

tions is to co-opt the scientists. Although, as Mooney points out, there is nothing inherently wrong with industry supporting independent (e.g. university) institutional research, he notes that research on tobacco funded by the tobacco industry was 88.4 times more likely to find no causal relationship between tobacco products and cancer than was independently conducted research. Mooney reports that a pattern exists wherein industry spokespersons promote fringe and quasi-scientific reports that attempt to discredit scientific consensus when it challenges corporate activities. The conservative faith in free enterprise is such, Mooney argues, that they will accept without criticism industry sponsored research while demonizing research and the independent scientists with whom they disagree politically.

In the 1930s, Mooney notes, a quack "scientist" by the name of Trofim Lysenko promoted himself and his absurd genetic views through the Soviet Union's political corridors without conducting or publishing research. His



views were so consistent with and supportive of the politics of Joseph Stalin that Lysenko rose to power and prominence. So powerful was Lysenko and his ideological zeal that he strove with some success to ban genetics. It took Soviet science decades to recover from Lysenko—and to this day Lysenkoism defines the ideological suppression of, or refusal to accept, scientific findings. The current White House and Republican Congress, Mooney argues, are cut from the same cloth as Lysenko and Stalin.

Before exploring how scientific abuse became central to the Republican way of life, Mooney identifies a series of techniques that have been employed in various guises, many of which the alert reader will recognize.

1) *Undermining the process of science* involves two confusions. The first is demanding of science that which it cannot provide while criticizing scientists for not providing it. This deals with "proof" in the sense of absolute certainty. The scientific process is undoubtedly the best method we have for helping us learn how the world around us works—what rules, regularities, natural laws and cause-effect relationships govern the physical world. However, even the best science cannot offer more than evidence that supports or denies hypotheses; there can always be a new study conducted somewhere that denies a hypothesis long supported. When there is a vast amount of evidence, a scientific consensus develops—but

absolute certainty is not the result. The second confusion concerns misuse of the scientific term "theory." In everyday language we often use theory as a synonym for opinion or hypothesis. In science, however, such as in "Atomic Theory" or "Evolutionary Theory" the term is used to describe a broad framework of related ideas which has been well tested, and has not been falsified. While theories are not facts, they certainly represent scientific consensus. When Creationists, for example, assault Evolution as "merely a theory" they are using the term in the everyday sense, not in the scientific sense, which, of course, is how scientists use it.

2) *Suppression* involves quashing or re-writing scientific reports that challenge political ideology. While the Reagan White House was guilty of this in connection with a report of its own Office of Science and Technology Policy, the Bush Administration has suppressed global climate change assessments.

3) *Targeting individual scientists* occurs when government scientists are precluded from reporting their findings in the scientific literature or at scientific conferences. Since communication of results is central to the scientific process and the progress of scientists in their discipline, this undermines the process of science and discourages research.

4) *Rigging the process* occurs when appointments to science advisory committees are based on political views rather than expertise. The Bush Administration has employed this technique time and again to the benefit of industries and at the cost of human and environmental health.

5) *Errors and misrepresentations* occur when a politician deliberately takes the results of science and misstates the results or the conclusions which flow from them. When George Bush asserted there existed more than 60 embryonic stem cell lines as justification for his policy on stem cell research, he was perpetrating exactly this abuse of science.

6) *Magnifying uncertainty* is a well-used technique that involves focusing on the fact that no "proof" exists (see item 1) when the scientific consensus is, in reality, as near unanimity as is possible.

7) *Relying on the fringe* is a technique closely allied to (6); it involves publicizing or calling to testify before Congress the one or two obscure scientists who hold opinions contrary to the scientific consensus. These are often the same suspects each time—coming from a conservative foundation or institution funded by corporations with their own clear political agenda.

8) *Ginning up contrary science* takes (7) a step further by actually funding scientists to undertake activities that challenge consensus. The tobacco industry, for example, paid scientists to write letters challenging published scientific research.

9) *Dressing up values in scientific clothing* is a cunning strategy that involves confusing the public into thinking a decision is based on sound science when the scientific advice has actually been ignored. In order to appease pro-life religious conservatives, the Bush Administration ignored the 23:4 recommendation of an advisory panel that over-the-counter sales of a morning after pill should be allowed. In order to justify this rejection, the FDA conjured up the need for more data (a common ploy to avoid action) of a kind not relevant to the question and never before required.

But how and why, the critical reader might wonder, did abuse of science become the hallmark of only one party? Mooney briefly explores this history. Republican President Richard Nixon, he suggests, may not have cared too much about clean air and water personally, but he knew which way the wind of public opinion was blowing; thus it was this Republican stalwart who created the Environmental Protection Agency, signed the Endangered Species Act, and the Clean Air and Clean

continued on page 7... *War on Science*

War on Science.....continued from page 6

Water Act. At that time, current Republican for Environmental Protection member Russell Train was welcomed into the mainstream of Republicanism; today Train and other moderate Republicans are endangered species themselves in the Party. Referring to the Ford Presidency, Train recalled how in his role as EPA Director he was allowed to make decisions on the basis of the best available scientific information without fear of having decisions trumped or countermanded by White House politics. In marked contrast, the Bush White House forced edits into a 2003 EPA climate change report; Bush advisors rejected current consensus and replaced it with White House ideology.

Mooney traces the lure of scientific abuse within the Republican Party back to the 1970s and 1980s when the party was taken over by an ideological merger between business interests and religious conservatives. This period stands in marked contrast to the 1940s when President Roosevelt urged scientists who had aided in the war effort to continue to contribute benefits in time of peace. As a result, Government investment in university research blossomed—and continued to blossom as the Soviet Sputnik launch of 1957 convinced Republican President Eisenhower to establish within the White House the President's Science Advisory Council and appoint the first White House Science Advisor. Democratic President Kennedy continued the support of science, establishing the White House Office of Science and Technology. Interestingly, a level of honesty developed between the scientists and Kennedy as a result of which the President acknowledged that manned space flight was intrinsically less likely to produce scientific advances than unmanned spaceflight. Mooney notes that Kennedy never promoted his Apollo mission to the moon on the basis of its scientific merits. What Kennedy avoided was what we see all too often these days—politicians dressing up their ideological policies in scientific garb.

The warm relations between conservative politicians and the intellectual scientific community soured as Republican Barry Goldwater based a Presidential bid on a deep distrust of the Eastern establishment, the elite media, and universities; in his campaign anti-intellectualism and anti-communism were joined. It was out of the failure of the Goldwater campaign that modern conservatism was born. When conservatives coalesced, as Mooney relates, the brought together: “under the same broad umbrella worldly pro-business conservatives and cultural traditionalists fed up with hippies, feminism, and gay rights, and incensed by Roe vs Wade and the Supreme Court's banning of school prayer.”

The successful environmental and consumer protection movement of the late 60s and early 70s drove the business community to counter-attack. That the rules promulgated by the Environmental Protection Agency and the Occupational Health and Safety Administration were founded on scientific justification prompted industry to mount a counter-offensive of producing their own contrary science designed to block regulations. One of the pivotal events of the 1960s, the publication of Rachel Carson's *Silent Spring*, provoked an onslaught of counter-charges and contrary P.R. from the chemical industry designed to undermine the scientific basis of that influential publication. Even though industry's goal of spreading the notion that Carson's thesis was based on mysticism rather than legitimate science was successful, the President's Science Advisory Committee of JFK largely vindicated Carson's book and the science upon which it was based.

Though generally paying little attention to Washington happenings prior to the 1970s, the wave of regulations drew the attention of the business community. Spurred by the likes of later Nixon Supreme Court nominee Lewis Powell and reformed Trotskyite turned neo-conservative William Kristol advised business leaders to “mobilize to ensure their own survival” corporations became more interested in influencing public debate. As a result, conservative foundations and “think tanks” such as the American Enterprise Institute and Heritage Foundation were established to enlist right-leaning thinkers and provide expertise on issues of relevance to business. Their goal was to undermine the findings of social scientists and university scholars with the ideology of the conservative political agenda. These entities have been highly successful and are with us today plying the same trade with budgets in the tens of millions of dollars.

As Mooney then depicts, the final marriage of big business and the religious right occurred with the election of Ronald Reagan. This is exemplified in Reagan's failure, in deference to the religious conservatives, to acknowledge or speak out on AIDS until 1987. Surgeon General Everett C. Koop was even forbidden from mentioning AIDS during Reagan's first term. As Reagan considered eliminating the presidential science advisor, Budget Director David Stockman reported of scientific advice, “We know what we want to do, and they'll only give us contrary advice.” The practice of presidential ignoring or avoiding scientific advice was nurtured well during the Reagan era. This allowed Reagan to endorse Creationism and the Star Wars program (sanitized under the title Strategic Defense Initiative), and promote the notion that abortions have serious health consequences

for women, even though none of these ideas enjoyed scientific support.

Although the first President Bush elevated his science adviser to the position of assistant to the president, and is remembered largely as a friend of science, a critical turning point for the worse occurred when Newt Gingrich and his Republican Revolution overtook congress and, in its desire to avoid receiving informed scientific advice, immediately dismantled the congressional Office of Technology Assessment.

Over the nine subsequent chapters, Mooney explores the following examples of how Republican and Bush Administration abuses of science have transpired:

Chapter 5 addresses the politicization of science during the Gingrich Congress.

Chapter 6 addresses the transformation of sound science into junk science during the Gingrich era.

Chapter 7 addresses the promotion of ‘Luntzspeak’ (the principle or recruiting fringe scientists to challenge scientific conclusions) to combat scientific consensus when such consensus threatens neo-conservative ideology.

Chapter 8 addresses the demand for certainty where none is possible to combat scientific consensus when it is aligning against neo-conservative ideological principles.

Chapter 9 addresses the vilification of reasonable scientists and their opinions.

Chapter 10 addresses promoting the rejection of best available scientific evidence.

Chapter 11 addresses how Creation Science has undermined science and science education.

Chapter 12 addresses the attack against stem-cell research as a sop to the religious right.

Chapter 13 addresses how junk and pseudo-science have fed the stifling sex agenda of the religious right.

Chapter 14 addresses how the Bush presidency has conducted a constant war against science, scientific consensus, and the role of scientific evidence in informing public debate and government policy.

Anyone in the environmental or conservation movement who wishes to gain a better understanding of how the current Republicans in Washington are undermining science in the service of their political agenda would be well-served by exploring this analysis. ☺

Preserve the Future

Not everyone can make a large gift to protect the environment during their lifetime, but you can preserve the environment for generations to come by remembering the Sierra Club in your will.

There are many gift options available. We can even help you plan a gift for your local Chapter.

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John Calaway, Director of Gift Planning
Sierra Club, 85 Second Street, 2nd Floor,
San Francisco, CA 94105 (415) 977-5639
e-mail: planned.giving@sierraclub.org



Explore, enjoy and protect the planet

photo: David Baker

Sierra Club Directs its "Energy" to Energy



by Ron McLinden

What's this? The Sierra Club moving away from its traditional focus on wilderness and public lands?

Not really. Deliberations at last year's Sierra Summit revealed an overwhelming sentiment that the greatest threat to the wilderness that we cherish—and, indeed, perhaps to all of humanity—is global warming. Nearly every day brings fresh evidence that the world's climate is changing, perhaps more rapidly than we have heretofore realized. The consequences could be huge—and they will likely fall most heavily on some of the world's least advantaged peoples.

The greatest potential for slowing or mitigating climate change is to reduce our emissions of greenhouse gasses from burning fossil fuels. Our government barely acknowledges climate change—resolving merely to study what's happening and what technological fixes might be concocted—so it's up to the rest of us to take the lead.

In Missouri our principal action on global warming is to promote renewable energy—in part through a renewable energy standard—and energy efficiency as alternatives to construction of new coal burning power plants. Our

successful challenge to the secrecy of AmerenUE's "integrated resources plan" should enable us to focus additional attention on efficiency and renewables. And activists are working to get additional mayors to sign the Mayors Climate Protection Agreement. As time goes on we'll pursue other strategies as well.

The road ahead is challenging. By credible estimates, global oil production is nearing its peak while global demand continues to climb. As a result, the price of oil and oil-based products—as well as every other form of energy—will continue to climb.

Meeting the global warming / energy challenge will require stronger advocacy, both in the public arena and in courts of law. Meeting the challenge will also require a still-not-clearly-defined call to restraint in our personal use of energy.

As the Sierra Club asserts its leadership on these issues we'll find ourselves doing more with the third part of our mission statement: to "educate and enlist humanity to protect and restore the quality of the natural and human environment."

Now, more than ever, the nation needs the Sierra Club, its values, and its energy. And the Sierra Club needs your commitment of time and resources. ☺

Support Missouri's Clean Air and Energy Campaign

The Missouri Sierra Club, representing the broader interests of Missouri citizens, is leading the way with its Clean Air & Energy Campaign to oppose new coal-burning power plants in Missouri on the grounds that energy needs for the state can be met more responsibly with cleaner, cheaper, and safer 21st century technology.

Missouri's Ozark Chapter faces significant financial obligations for power plant opposition in 2006. \$30,000 needs to be raised for continuing litigation (see "Stop Coal Burning Power Plants in Missouri") and an additional \$30,000 is needed for educational campaigns. To financially support Missouri's **Clean Air & Energy Campaign**, send your contribution to Missouri's Ozark Chapter Sierra Club, 1007 N. College, Ste 3, Columbia, MO 65201. *

* Please make your contribution payable to "**Sierra Club Foundation, Ozark Chapter Clean Air & Energy Campaign.**" Contributions and gifts to The Sierra Club Foundation are tax-deductible as charitable contributions as they support grants for public education, research and public interest litigation necessary to further the Sierra Club's conservation goals. For a not tax deductible contribution, make your check payable to "**Ozark Chapter Clean Air and Energy Campaign.**" Contributions and gifts to the Ozark Chapter Sierra Club are not tax deductible; they support our effective citizen-based advocacy and lobbying efforts. This type of gift provides maximum flexibility for the Club.

On-line donations: <http://missouri.sierraclub.org/>. Only non-tax deductible donations are available on-line. For questions contact Melissa Blakley, Chapter Development Associate, Melissa.blakley@sierraclub.org, 573-999-7388.

Stop Coal Burning Power Plants in Missouri



by Wallace McMullen

Regulatory Challenges by the Ozark Chapter

Three new coal burning power plants are presently proposed within Missouri. A fourth is proposed on the east side of the St. Louis air shed, and AmerenUE is planning on another at the Rush Island site within a few years.

Kansas City Power and Light

KCPL's permits all relate to the proposed Iatan II plant, 850 Megawatts, about 30 miles northwest of Kansas City on the bank of the Missouri River.

Financing

The Ozark Chapter of the Sierra Club is challenging the Public Service Commission's approval of an "Experimental Regulatory Agreement" which pre-approved financing for KCPL to build its proposed Iatan II plant. Filed in the Missouri Circuit Court in Cole County. Legal work is being handled by the Great Rivers Environmental Law Center.

Air Pollution

The Ozark Chapter is challenging the air permit issued by the Department of Natural Resources (DNR). The Washington University Environmental Law Clinic has taken on the Chapter as a clinic for this challenge. The Clinic filed extensive comments on the draft permit, and is investigating an appeal of the final permit. (Probably will have filed the administrative appeal by the time this is published). That appeal will go to the Missouri Administrative Hearing Commission, which will make a recommendation to the Air Conservation Commission after a hearing.

This permit is called a Prevention of Significant

Deterioration permit in the language of the Clean Air Act. It controls the amount of pollutants such as those which cause smog, acid rain, cardiac health problems, and mercury. State regulations curtail the emissions, but still allow large amounts in the permit.

Landfill

A draft landfill permit for the coal combustion waste has been announced by DNR. The proposed landfill site is in the flood plain. A hearing on the draft permit will be held by DNR on March 14th in Platte County.

Water

KCLPL must get a permit from the Army Corp of Engineers to modify the riverbank for constructing the plant, and from DNR pertaining to water quality. (Labeled a 404 permit, and a 401 permit, respectively, in the Clean Water Act). KCPL also plans to construct wells running under the river which will draw 10.7 million gallons of water per day. The Chapter has obtained application documents from the Army Corp and Great Rivers Environmental Law Center has submitted comments challenging the permit application on behalf of the Chapter. We are awaiting action by the regulatory agencies.

Springfield City Utilities

Air Pollution

The Ozark Chapter has been challenging the permit for air emissions issued by DNR for the City Utilities proposed plant since 2004. The Sierra Club's regional Midwest Clean Air Program was able to bring in a nationally recognized lawyer to argue an administrative appeal for us at a hearing in October, 2005. However, the Air Conservation Commission voted against our administrative appeal, and we have now appealed that decision

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Sierra Club Pushes Mandatory RES



by Carla Klein, Chapter Program Director

The Sierra Club has worked with Representative Jenee Lowe (D, Kansas City) and Senator Chuck Graham (D, Columbia) to introduce statewide renewable energy standards. We believe Missouri Renewable Energy

Standards (RES) legislation is essential to stimulate the development of clean renewable energy in Missouri.

The legislation, HB 1384 and the companion bill SB 843, would require all retail sellers of electricity, including municipal and rural electric cooperatives, to supply a certain amount of their power from renewable energy sources. The minimum percentage requirement grows from one percent in 2008 to ten percent in 2020.

Missouri currently imports nearly all of the fuel to produce electricity; billions of dollars exit the state annually. RES legislation would provide the impetus for the development of Missouri's renewable resources and keep more energy dollars working within the local communities, thus creating new job opportunities.

Development of clean domestic energy choices would

continued on page 11..Mandatory RES



Free for the Taking...



by Tom Kruzen, Mining Committee Chair

It shines on all of us every single day, warming our oceans, skies and every surface it touches. The energy from our star, 93 million miles away is offered to us **for free**. It is **the energy policy** in front of our noses, spurned by our fear-driven leaders in Washington and Jefferson City.

Elmer Schettler, my Iowa friend recently transplanted himself to Pagosa Springs, Colorado into a well-insulated round house with few windows on the north side and a huge cathedral window array on the south. All windows are modern and super-insulated. On a cold February, 2005 day with 5 feet of snow outside the sun poured in the south windows striking a massive flagstone and tile floor overlaid on cement. This Lighthawk pilot/organic soybean grower's house is a post and beam circle whose wooden beams rest on a Russian masonry stove, similar to the one in our Pans' Garden Greenhouse. Elmer's elegantly modern house is nestled in the southern Rockies at 8500 ft.

On sunny days when the temperature hovers around 35 degrees Fahrenheit and above, Elmer needs no fire in the house. The sun warms his stones, tiles, cement, and stucco walls and gives off an amazing amount of heat. With this kind of winter weather, Elmer burns a wide-open fire in his **grubka** only two to three times a week. After a two hour clean burn (85-90% efficient) of limb wood a damper keeps all the white-hot coals' heat inside



Elmer's round house in the Rockies

photo by Tom Kruzen

the firebrick, brick and stucco stove. Roughly 6 ft by 4 ft, by 4 ft., these masonry stoves have been used in Europe for centuries. The convoluted flues distribute the hot gases throughout the mass of the stove and for the next 24 to 30 hours, the stove radiates a glowing heat, which, in turn, warms Elmer's floors and walls.

If temperatures stay below 20 degrees for extended periods a daily fire might be required but only for 2 hours to keep the heat momentum going. Angel and I found his house warm and full of light. Our upstairs bedroom was so warm that we had to open a window to sleep well. When Elmer is away, flying for **Lighthawk** (the environmental "air force of volunteer pilots) or gone

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Hide and Seek with AmerenUE



by Henry Robertson, Chapter ExCom

Nine days before the reservoir burst at Taum Sauk, AmerenUE filed a "highly confidential" 3,000-page document with the Missouri Public Service Commission (PSC).

It was an Integrated Resource Plan (IRP), an eye-glazing term for a pretty good idea. Periodically Ameren and other electric utilities must give the PSC an assessment of how demand for electricity is growing and what their options are for meeting it—with coal, nuclear, pumped storage, renewable energy, or energy efficiency programs that might avoid the need to build expensive power plants. The utilities don't have to say exactly what they're going to do and the PSC won't tell them.

Still, this menu of possibilities is useful. We the public, who pay the rates and breathe the air, have an interest in what Missouri's largest utility might do. Why should this plan be confidential?

The Ozark Chapter, together with the Missouri Coalition for the Environment, Mid-Missouri Peaceworks and ACORN, asked Great Rivers Environmental Law Center to look into it. We intervened in the IRP proceeding and filed a motion to make Ameren disclose their plan. The PSC agreed, while allowing Ameren to hold back genuinely confidential or proprietary information.

So Ameren issued a "public" version of the plan, but it was still heavily censored. Often we have only the title of a document to go on. We know they've looked at nuclear, pumped storage and a third coal-burning unit at Rush Island in Jefferson County, but the public IRP doesn't say if Ameren thinks these projects are desirable or feasible.

Ameren has dropped a few clues in the press, though. We know they're seriously considering a Callaway 2 nuclear unit. They've said they'd like to rebuild Taum Sauk. In 2001 they unveiled a plan to build another pumped storage plant at Church Mountain near Taum Sauk, but quickly shelved it after a burst of opposition from the Sierra Club and others. (And you thought mountaintop removal was only done for Appalachian coalmines.) Is Church Mountain back on the table?

As I write we're still trying to pry more information out of Ameren. They've bought three natural gas-fired power plants that allow them time to make a long-range decision. For the Ozark Chapter our intervention is part of a larger effort to convince the PSC, the utilities and the public to embrace conservation and renewable energy technologies, not dirty coal, dangerous nuclear power or hollowed-out mountaintops. ☺

White Lightning and Other Fuel Ideas



by Alan Journet, Conservation Chair, Trail of Tears Group

Corn fermentation and distillation have been with us for centuries; in the backwoods they produce white lightning—in the commercial distillery they produce bourbon legally required to comprise 51 percent corn. But is it a good way to solve our liquid fuel crisis? In this article, I will explore the questions that have been raised regarding this and related biofuel issues.

Most of us are concerned about our families and our future, about the lives that we, our children and our grandchildren will enjoy. We would like future generations at least to enjoy the standard of living that we enjoy. We would also like them to be able to enjoy a planet that is as rich and diverse as ours, one that is rich in biodiversity and rich in natural resources. Maybe we'd even like their planet to be richer than is ours. If this is the case, we need to focus our attention on activities that do not threaten the ecological life support system that is the source of both our standard of living (in terms of food, fiber, and ecosystem services such as the wetlands, watersheds, and forested carbon dioxide sinks) and the natural resources we enjoy when we recreate in the great outdoors.

One issue about which we are all concerned is energy. Globally, the peak of oil and gas discovery was in the 1960s, the peak of per capita oil production was in the late 1970s, while the peak of overall oil consumption may be as soon as 2007. As a result, supply will be severely

limited within 40 to 50 years—a time span that is within the lives of many of us, and certainly the lives of our children and grandchildren. Thus environmentalists are not alone in the interest they share regarding the potential that liquid fuel from corn and other crops might offer. If there were available to us clean, environmentally friendly, energetically efficient, and sustainable energy sources that could replace oil, there are few (whether conservative, liberal, environmentalist or conservationist) who would not jump at the chance to promote them. If nuclear power were such an energy source, the environmental and conservation communities would be ecstatic. Unfortunately, the nuclear option leaves us with nuclear power plants that are sitting targets for terrorists, have a track record of accidents that release radioactive products into their surroundings, and necessarily produce spent fuel and nuclear plants that are radioactive for eons and for which we have no safe disposal.

Similarly, if we could generate clean, environmentally friendly and energetically efficient gasoline from agricul-

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Energy Notes



by Wallace McMullen, Ozark Chapter Energy Chair

Wind Farm in Missouri

Missouri has its first utility scale wind power project, in Gentry County, Missouri. The lead developer of the 50 Megawatt **Bluegrass RidgeWind Project** is Tom Carnahan, son of the late Governor. Approximately 12 farms have signed long-term leases with Bluegrass Wind for 24 turbines to be

erected on their land. The electricity generated will be purchased by Associated Electric Cooperative, Inc. of Springfield, Missouri. The wind-mapping studies led by DNR's Energy Center are reported to have assisted in getting the project underway.

AmerenUE

AmerenUE is the largest electric utility in Missouri, serving much of the eastern half of the state. It is the largest regulated monopoly in Missouri, with sales in the range of three billion dollars per year. It operates four big coal burn-

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Looking from the power shed to the workshop and beyond to the house. Note the satellite dishes on the house.

photo by Tom Kruzen

Free for the Taking.....continued from page 9

to Europe to visit a friend, he leaves his home in the good hands of "Ole Sol". There is no thermostat to worry about and his solar/stone flywheel keeps the house at between 38 and 55 degrees Fahrenheit. No frozen pipes, no frozen house-plants and enough heat to be tolerable while he fires up the grubka. "It not only keeps my heating bills to a minimum and close to zero, but it also keeps me very conscious of the daily weather; it's a very organic relationship", says Elmer.

Since 1992, Elmer and his airplanes have flown environmental activists, politicians and reporters over Missouri chip mills, gravel miners and lead mines. A pilot's eye-view often changes people's minds, the state's laws and the course of history. A house like Elmer's could do likewise if it were replicated millions of times. No coal, no oil, no dead miners. Just the sun and natural materials warming hearts and hands!

In our own state, John and Dolores Hanson, some years back, settled into a remote Ozark valley, eight miles from any power poles or telephone service but very near one of our National Scenic Rivers. The re-insulated modest wood frame home is heated with an efficient wood stove. It has the usual compliment of lights, kitchen appliances, computers, television, radios and such. John and Dolores, however, did not pay the quarter of a million dollars it would have taken to bring them

electricity from our coal-fired or nuclear power plants. At roughly a tenth of that price, the Hansons powered their farmhouse and workshop with **forty photovoltaic panels**. Their lifestyle suffers no absence of electric gadgets and tools in the midst of their excruciatingly beautiful valley. John can even weld using the sun's power.

His "power shed" sits behind his workshop and is in reality an old ship's container. 36 photovoltaic 500-watt panels rest on top of the shed, two sit on a portable car-charging cart and two down at the house round out the forty panels. A separate container houses his deep-cycle 2-volt batteries. Twelve of them give him 24 volts stored power, which is then inverted to 120 volts and sent to the workshop 100 feet away and the house 300 feet away. Heavy-duty wiring keeps his line drop to a minimum.

"It's not like a normal household though", explains John. Fully charged, he can maintain his lifestyle for three days without any further charging. "But one becomes very conscious of what the sun is or isn't doing on a daily basis", he remarks, saying that it has made him an energy miser. Yes, he turns out the lights in public restrooms when he leaves! Dolores shows up with an orange/lemon/banana smoothie, which she created in her regular blender. I sip the solar-generated smoothie on this truly cold bitter winter Saturday. John explains that he likes the self-sufficiency of solar panels.

Thunderstorms and ice storms leave them kindly unaffected while people on the "grid" all too often suffer outages, sometimes for days! "We're at 2 amps right now, barely enough to run a couple of lights", John points out. Just then the sun burst from a late afternoon cloud cover and our monitor jumps up to 50 amps. Most of the power is made between 10 am and 2 pm on sunny days, but some is made even on these bleak winter afternoons. On rare occasions in the darkest time of December, he might have to run a back-up propane generator to supplement his "free power". "Situations like that generally last a day or two" he explains but with these batteries we can go for three weeks without charging

He has a satellite hook-up for his computer and gets satellite TV so he is connected to the world if he chooses, but he has switches on all appliances, which he turns off immediately after use. John says many electronic appliances have "phantom power use". Instant-on televisions, radios, stereos and computers all use unnecessary electricity to keep them primed so they turn on instantly.

He and Dolores have become very conscious of the vagaries of the sun and solar power. "It's not perfect and it really wouldn't be cost effective for the average person yet to convert to solar yet, but if you want to be energy-independent and walk with a lighter foot-print on the earth, then solar's for you", says John. No mountains were blown-up in West Virginia, no strip mines in Wyoming and no dead or injured miners bought the Hanson's their electricity. In the case of Missouri, John and Dolores didn't contribute to the Proffitt Mountain dam failure or the destruction of our state park and Black River.

By the way, their well-insulated workshop with a six-inch deep cement floor and large insulated windows on the south side always keep the building warmer than freezing and somewhere between 35 and 55 degrees, just from the sun. Where have we heard this before???

Having visited these two homes exactly a year apart have given me new appreciation for the sun, for human ingenuity and for good conservation-minded folks like Elmer, John and Dolores. These technologies, some old, some new point the way in these dark political times when young men and women are sent to die for oil and to "save our lifestyles". What is happening in the Schettler and Hanson households **is a partial solution** to our energy woes with proven technology. The more we replicate these and more, the less we will need foreign oil or more nuclear power or so-called clean coal. Add hybrid car technology and energy self-sufficiency would no longer be a dream but a reality. ☺



Deer pausing by some solar panels at the Hanson farm.

photo by Tom Kruzen



Elmer's grubka and tiled floor.

photo by Tom Kruzen



Gauges help John keep track of the sun.

photo by Tom Kruzen

Energy Notes.....continued from page 8

ing power plants that almost encircle St. Louis, the state's only nuclear generating facility (Calloway), Bagnell Dam, and the collapsed Tam Sauk "pumped storage" facility at Proffitt Mountain.

Therefore, what Ameren does, has a major effect on Missouri's economy, the health of its citizens, and a major effect on our environment. Ameren's coal burning plants are a significant part of the poor air quality problems in St. Louis. (St. Louis has been a non-attainment area for one or more pollutants since the 1970s).

An Economic Impact—Higher Rates for Cleaner Air

In February the company announced its estimated cost to follow federal air quality rules requiring it to cut pollution in the next decade from coal-burning power plants is now \$2.1 to \$2.9 billion. These regulations will require reductions in emissions of Nitrogen Oxide (Nox), which causes smog, and Sulfur Oxides (Sox), which causes acid rain. The cost estimates may rise if Illinois imposes the tighter mercury-emissions standards which have been proposed by Gov. Rod Blagojevich.

Mandatory RES...continued from page 8

diversify the state's energy supply and increase energy security and reliability while protecting Missouri consumers from volatile energy prices. Without a RES, Missouri will continue to lag behind other states in renewable energy production. A survey of 175 Missouri utilities in 2002 by DNR's Energy Center found that only three percent planned to offer an alternative energy program or service.

Adoption of a RES assures potential renewable energy investors a reliable and steadily growing market, enabling long-term contracts and financing. This kind of market-based solution harnesses the private sector to achieve energy independence and a cleaner environment. In other states wind energy developers are paying farmers \$2,000 to \$5,000 per year for each turbine installed. Each turbine uses less than a half acre, so farmers can plant crops and graze livestock right up to the turbine's base. Some farmers have formed their own wind power cooperatives.

Most of Missouri's electricity is generated by coal-

Ameren told the *St. Louis Post-Dispatch* it expects to raise electricity rates to "recover" these costs from its customers. (February 15, 2006).

AmerenUE is Keeping Secrets

The Public Service Commission, requires all the big monopoly utilities, (also called Investor Owned Utilities), to periodically file a report on their plans for the next 10 to 20 years. This report is called the Integrated Resource Plan (IRP), and is supposed to include all options for meeting the public's need for electrical services. That explicitly includes efficiency options and renewable energy.

Ameren filed its plan in December, 2005. But it declared its whole IRP report is "highly confidential," a designation which keeps the entire document secret. This has been challenged by the Great Rivers Environmental Law Center (GRLC), representing the Sierra Club, Peaceworks (in Columbia), Missouri Coalition for the Environment, and ACORN. In response to a motion by the GRLC, the PSC ordered AmerenUE to refile the plan by Feb. 10, with everything that was not legitimately a business secret revealed. The second version revealed

fired power plants, producing emissions that cause acid rain, mercury contamination and contribute to global warming. These air pollutants are linked to asthma, lung diseases, developmental delays and birth defects. Moving Missouri toward a clean, renewable energy future will protect human health and the environment.

Missouri's renewable electricity potential is virtually untapped. Renewable energy is increasingly available and affordable. Many states have realized that diversifying their energy sources benefits their economy and environment. It is time for Missouri to join the twenty-one other states that have already adopted Renewable Energy Standards.

Another version of a renewable energy bill has been introduced by Senator Koster (R, Harrisonville). Senate Bill 915 titled the "Green Power Initiative." The Sierra Club views this bill as a symbolic gesture that will do nothing to accomplish the renewable energy goals necessary to really drive the introduction of renewable energy in Missouri. Although the bill can be viewed as a first step, requiring utilities to send in a bi-annual report on which renewable energy options they have considered.

about half the text, but blacked out virtually every number, chart, and table in the report.

The lawyers for Ameren and the GRELIC are now arguing over the refiled version. The public and environmentalists interested in the details of Ameren's planning continue to be mostly in the dark.

Items gleaned from the February 10 filing, and Ameren's press announcements:

The company is planning to build another 660 MW coal burning power plant at Rush Island. (When it will start is still secret). It is considering construction of a second nuclear reactor at its Calloway County site in a number of years. The utility's long-range plans also include renewed consideration of a second pump storage plant on Church Mountain near the collapsed Taum Sauk hydroelectric plant in southeast Missouri.

Citizens who want to ensure that AmerenUE gives full consideration to more efficient utilization of electricity and the generation of power from renewable sources continue to be mostly excluded from taking part in the discussion of the regulated utility's plans at present. ☞

SB 915 only requires a "good faith effort," no mandatory requirements. We appreciate letting the market set prices. In fact, we believe that if the full impact of energy use was considered, then clean renewable energy would already be the clear choice in the market place. However, coal production is heavily subsidized from mining to transportation. Regulated utilities also enjoy a monopoly status; therefore, market place competition does not really apply here. In order to level the playing field or market status, requirements mandating renewable energy are necessary to move the industries in the right direction.

Utility providers are accustomed to building huge, dirty coal plants that cost billions of dollars, tying them to the technology for several decades. Without mandatory renewable energy standards, clean renewable energy will not be viewed as a viable option for several more years.

We have an opportunity to join the 21 other states that have already taken this important step. Missouri should choose to build a cleaner, safer, stronger energy future. Supporting mandatory renewable energy standards will get us there. ☞

Coal Burning Power Plants...continued from page 8

Missouri circuit court.

City Utilities plans to use water from the sewage treatment plant, and an existing landfill site for the ash dump, so they do not need water and landfill permits.

Associated Electric Co-op, Inc. (AEC)

AEC has submitted a permit application to build a new 660 Megawatt coal burning facility in Carroll County near the town of Norborne, which is about 50 miles east of Kansas City. This application is in its early stages.

Peabody Prairie State, IL

Peabody Coal has applied for all the permits needed to build a very large (1500 MW) coal burning plant about 45 miles southeast of St. Louis. The Sierra Club has appealed the air and water permits to the Environmental Appeals Board in Washington DC, and to the Illinois EPA, respectively.

The Sierra Club challenged Peabody's lack of social responsibility at its annual shareholder meeting in May, 2005, and may do so again in 2006. Peabody's corporate headquarters is in St. Louis. ☞

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- Ozark Chapter of the Sierra Club
- Ozark Flyfishers
- Patchwork Family Farms
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- Scenic MO
- Trailnet
- United Steelworkers of America – District 11

The Cost Of Compromise

by Albert Midoux

The cost of compromise and the price of loyalty can usually be determined by ones perch on the rungs of the economic ladder. We see this form of subtle treason, not in the aid to enemies of our country but in the betrayal of our planet. At the upper rungs of the ladder are the industrial corporations whose greed is exceeded only by their ambitions. In many cases these ambitions to grow larger and more powerful far exceed their ability to control the environmental hazards, which also grow larger and more prevalent.

Rules are ignored, laws are bent and the moral issue is non-existent. No one seems to give a damn. On the middle rungs of the ladder are the leading citizens of any community, the main street persons from the dollar store to the local lumberyard, the mayor, council people and local banker.

One would think the forceful voices of such individuals would rise in opposition to the transgressions of industry but does not. They remain silent, very docile

and non-confronting.

The financial as well as community standing of these people depend for the most part on the apples which fall from the corporate tree. The bigger the tree, the more apples they can catch. There is no mystery why they prefer the shade of the old apple tree.

The bottom of the ladder is reserved for the rest of us, the aspiring peons who harvest for the most part the worms from the corporate apples.

But hey! Were the nice guys right? Wrong! We just don't cost as much to compromise. We clear-cut timber from hillsides to plant grass to feed one more cow, which will cause extensive erosion of our topsoil. We will plow as close to the rivers banks as possible to grow one more bushel of corn or beans and some will continue to contaminate our ground and surface water with excessive use of over abundant animal waste.

We use pesticides and herbicides and seldom read the instructions for proper use. Our passive acceptance of "Frankenstein foods," which is the genetic tampering of our food crops and food animals, for which we have

only the assurance of safety from those who profit. Most foods we consume today have been genetically altered and un-labeled as such. Their safety for the long term unknown, or the effects of cross-pollination and mutations of our flora and fauna are a gamble of utmost danger.

We as the "low rungers" are accepting without question, without input or hazardous pay, the role of a laboratory monkey.

Trash of every variety is strewn along our roadways, streams and camping areas, even parking lots are not immune. Volunteers will clean an area of trash only to find the same conditions in a few days. The politicians and their appointed heads of enforcement agencies seem so docile and un-motivated that one must wonder, are they enforcing laws or picking apples?

Man has resided on this five billion year old planet for 500 thousand years. Those of us living today have brought it to the brink of disaster in a mere fifty years. If we continue at our present momentum and continue to remain silent, how long can it be before "all is silent, dead - ly silent..." ☹



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White Lightning...continued from page 9

tural crops where the benefits clearly outweigh the costs, we would all be delighted. Since agricultural crops are renewable they are an attractive potential source of liquid fuel if the production process can be demonstrated as environmentally sound and the environmental costs are minimal. Regrettably, however, many questions concerning fuel production from crops remain unresolved. Like many promising developments the cost/benefit analysis for ethanol from corn and biofuel from other crops have been difficult to nail down with confidence. Before we develop programs and policies that promote these products, we should be convinced that they represent a positive rather than a negative development.

Dr. David Pimentel, Emeritus Professor of Agriculture at Cornell University and Dr. Tad Patzek, Professor of Civil and Environmental Engineering at Berkeley (henceforth P&P) have offered a series of warnings regarding these fuels, questions that cannot be easily or lightly dismissed by those with a commitment to or a vested interest in one or other biofuel product. In "Ethanol Production Using Corn, Switchgrass, and Wood; Biodiesel Production Using Soybean and Sunflower" (*Natural Resources Research* Vol 14 No 1: 65-76) P&P raise a series of critical concerns that should be resolved if any of these potential energy sources are to be considered and developed. This is especially important if development is to depend, as it now does, on vast subsidies from taxpayer dollars.

Ethanol from Corn

Ethanol concerns fall into three general categories: the energetic efficiency of the production process, the environmental impact, and the ethical issue of turning cropland over to fuel production.

Energetics

This issue deals with the cost to produce ethanol balanced against the energy it releases when combusted. It makes sound common sense that a fuel is only worth developing if it releases more energy when burned than is used in producing it. If we use more energy to produce fuel than we get, the fuel product is an energy drain. In considering this equation, it is necessary to assess the energy consumed in crop production, shipping the crop to the distilling plant, and then fermenting and distilling the product. When comparing subsequent distribution to the consumer (i.e. the pump) ethanol and oil products probably balance out.

Although the U.S. Department of Agriculture suggested ethanol production provides a positive net energy, P&P cite numerous studies over two decades finding otherwise: First, the corn crop itself consumes considerable energy in labor, machinery, fuel, fertilizer, irrigation, pesticides, electricity and transport. Then, following shipment to the plant, the energy consumption again occurs in the capital energy costs of the fermentation/distillation plant and the costs of driving the process itself. In particular the steam and electricity needs of the triple distillation process required to produce the needed 99.5 percent pure ethanol and the processing of plant waste consumes considerable fossil fuel energy. The P&P analysis indicates that producing a liter of ethanol requires 6,597 kcals of energy, yet it has an energy value upon combustion of only 5,130 kcals. This amounts to a deficit of 1,467 kcal. The mathematics is simple: 28.6 percent more energy is used in generating a gallon of ethanol than is released when it is combusted. In summary: producing and using ethanol constitutes a net energetic drain on the nation.

This analysis suggests that ethanol costs more than it is worth, the cost being paid in conventional fossil fuel subsidies throughout the process. From an economic standpoint, if the cost of the \$3 billion subsidy to

ethanol production were added to the direct cost of production, ethanol would cost \$1.24 per liter. But we must also remember that ethanol is relatively energy poor compared to gasoline: we need 1.6 liters of ethanol to equal 1 liter of gasoline. Thus, a liter of gasoline equivalent in ethanol terms would cost \$1.88; which means it would cost about \$7.12 a gasoline gallon equivalent to produce. If we then add profit margins respectively for the producer, distributor, and retail seller, currently ethanol fails to provide a cheap fuel alternative to gasoline.

Interestingly, P&P also point out that large corporations such as Archer, Daniels, Midland are strong proponents of the ethanol process. Is it a coincidence that these corporations are also the recipient of the huge subsidies delivered by state and federal governments? Many politicians also support the ethanol process thinking it an economic boon to farmers. However, farmer benefits are actually minimal. Calculations derived from data provided by Senator John McCain (R-AZ) indicate that the large corporations gain over \$7 of taxpayer subsidy for each two cents that the family farmer gets (based on each bushel of crop processed). Could it be that politi-



Corn is being diverted from the food stream to produce ethanol as a gasoline substitute

photo by Claus Wawrzinek

cians are receiving campaign support not only from large corporations, but also from sources such as (Corn Grower) Associations and the Farm Bureau Insurance Company that represent the interests of big agribusiness rather than the family farmer?

P&P note that since 70 percent of corn grain is currently fed to livestock, subsidizing and thus increasing ethanol production will result in enhanced competition between ethanol distillers and livestock feed processors for the corn crop; this will increase the price of corn and thus livestock products—meat, milk and egg prices will rise. As a consequence of the current subsidy and this competition, ethanol production has been estimated already to add \$1 billion to the cost of beef production.

P&P also point out that ethanol currently represents only about 2 percent of the fuel utilized in the U.S. To fuel a single automobile (average 20,000 miles per year) approximately 1,000 gallons of gasoline are required.

P&P used data from the ethanol proponents to calculate that replacing one third of this with ethanol would require 0.6 hectares per automobile. Since 0.5 hectares of cropland are currently required to feed each American, this means that feeding one automobile per person with ethanol, we would have to devote more cropland to ethanol corn than is currently devoted to feeding Americans—a somewhat unrealistic suggestion.

As a final note on the potential costs of relying on ethanol as a liquid fuel, it is worth noting that if 50 million hectares (approximately a third of the arable land in the country) were devoted to corn production for ethanol, only 11 percent of U.S. liquid fuel needs would be supplied.

It is worth noting that Brazil, the largest producer of ethanol in the world, primarily uses sugarcane as its source—though beets are also used. Even though sugarcane is a more efficient source for the fermentation/distillation process, in Brazil the energy balance was negative, and the industry only survived because the government subsidized ethanol by charging the public only \$0.22 per liter while itself paying \$0.33 per liter. Since the government no longer pays the subsidy, the consumer does through higher prices at the pump.

Environmental Impact

As P&P argue, the environmental costs of corn production are quite significant, amounting to some \$0.06 per liter. Corn production causes more soil erosion than any other crop, and uses more herbicides, insecticides and nitrogen fertilizer. These, in turn, pollute groundwater, streams and rivers. Additionally, in some corn-growing areas (e.g. Arizona) groundwater is being pumped ten times faster than the aquifers recharge. These concerns lead to the conclusion that corn production is not, in some areas at least, even an ecologically sustainable agricultural crop.

Meanwhile, in the ethanol plant, environmental problems continue. The Environmental Protection Agency has already issued warnings to several ethanol plants that they must reduce air pollution emissions or be closed. Additionally, each liter of ethanol produces 13 liters of waste water; discharged into and polluting waterways with a high biological oxygen demand, the use of the public commons (waterways as sites for waste disposal) constitutes an additional public subsidy which, if controlled would increase cost to the ethanol producer.

Although ethanol is billed as a clean fuel because it releases fewer of the standard regulated pollutants such as carbon monoxide and hydrocarbons when compared with gasoline, both the Environmental Protection Agency and the National Academy of Sciences report that at best it will have no effect on air quality. It could, however, make matters worse with increased emissions of nitrogen oxides and volatile organic compounds—major ingredients of smog.

Conflicting Studies

Although many studies have reported a negative energy balance for ethanol, some studies report a positive balance. In evaluating the discrepancies between their studies and those of ethanol proponents P&P note that other studies omit many critical energetic inputs into the process. As a result, those studies produce conclusions that are biased, and appear to favor ethanol.

The main difference is that the ethanol proponents fail to take into account significant energy costs in ethanol production. In particular, they omit the energy required to manufacture and maintain either equipment used on the farm or in the fermentation-distillation process. Even when allocated over the life cycle of the equipment, these costs are significant. Additionally, proponents assess corn production in only nine favorable

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White Lightning...*continued from page 13*

states rather than all 50 as undertaken by P&P.

A by-product of ethanol production is a substance that can be used as livestock feed, (similar to Dry-distillers grains—DDG) though no one would produce feed from ethanol given that it contains a lower protein content than soybean feed, has high fossil energy costs and soil depletion consequences. While P&P estimate that the net energy from the by-product would theoretically reduce the negative energy balance of ethanol from 29 percent to 20 percent, they argue that this is a contrived unrealistic benefit. Ethanol proponents, however, eagerly add the energy composition of this by-product to the ledger to benefit their equation.

The Ethical Dilemma

At the turn of the millennium about 3.7 billion humans were malnourished, a condition that makes them susceptible to disease. Cereal grains, furthermore, comprise 80 percent of the world's food consumption. Since 99.7 percent of the world's food is supplied from agricultural land and global population increase has reduced per capita cropland 20 percent in a decade, a serious ethical dilemma is posed by the proposal to divert arable land from the food line to the fuel line.

Ethanol from Switchgrass and Wood

Applying similar analyses to switchgrass and wood cellulose as sources for ethanol, P&P calculate that the former provides a negative return of 50 percent and the latter a negative return of 57 percent. These values compare even more unfavorably than the 29 percent negative return of ethanol from corn.

Soybean and Sunflower Conversion to Biodiesel

Considerable attention has been given to the possibility of converting vegetable oil to a form usable in diesel engines. Indeed, the technology is sufficiently available that some enthusiasts have already made the conversion for their private automobiles. For mass production, both soybeans and sunflowers have been explored.

Although soybeans inherently contain less oil (18 percent) than sunflower seeds (26 percent), they have the energetic advantage that they do not require nitrogen fertilizer (one of the most energetically expensive inputs). Soybeans are also more productive per hectare. Additionally, the by-product of the soybean to diesel conversion is soy meal which can be used as livestock feed. Taking this credit into account, the 32 percent net loss from the conversion becomes only an 8 percent loss.

Sunflowers are less productive per hectare than either corn or soybeans. Even though the oil content is higher for sunflowers compared to soybeans, their yield is only about 50 percent. The resultant energetic cost for sunflower biodiesel is 118 percent of the energy it contains—a net loss of 18 percent.

Rainforests

Another issue associated with biofuels that receives little attention is the consequence for developing countries capable of producing usable crops (sugarcane, for example, but also palm and soy oil). This is especially problematic for those in the tropics. The Indonesian Government, for example, has already announced the development of the largest palm plantation in the world in the forested habitat of the already endangered orangutan among many other species. In short, the rush to biofuel has the potential to export environmental degradation to developing countries as they try to cash in on the ethanol fad by turning tropical forests into fuel crop zones.

Conclusion

Unlike corn, which captures and converts into usable energy (overall plants average just 0.1 percent), photovoltaic panels capture and convert some 10 percent—about 100 times more.

While it would be extremely helpful to find that the potentially renewable resource of agricultural crops could supply a significant proportion of our energy needs in an ethical and environmentally non-destructive manner, the evidence clearly argues that we need to pause and reflect. Before the promotion of ethanol or biodiesel production becomes a state or national policy and consumes yet more taxpayer funds, we should demand to learn if it is really beneficial or is it another non-solution to a serious problem. Is it merely another program that diverts taxpayer dollars to special interest groups that have bought and enjoy the ear of our politicians? Although occupants of the current White House have a profoundly depressing track record of ignoring sound



science when it denies their political and philosophical views about military, environmental or human health questions, maybe an unbiased review of biofuel studies and data by the National Academy of Sciences would be a worthwhile first step—at least to educating the public.

Given the energetic and environmental questions about these products, rather than developing state and national policies that promote them, we should focus our attention on energy efficiency and conservation where vast energy savings are possible. If taxpayer subsidies are to be accorded farmers and ethanol corporations, they should be in the form of promoting greater efficiency in the corn production and ethanol processing stages, and encouraging a less environmentally damaging corn production process.

Rather than blindly jumping on the biofuels bandwagon because it suits the profit margin of a few corporations, we should focus our attention on a serious analysis and public debate of the costs, benefits, global consequences, and ethical implications. In the meantime, it is

clearly appropriate that government programs and subsidies should be devoted to greater energy efficiency, greater energy conservation, and the energy sources that are genuinely renewable and sustainable, and have limited and known environmental costs. Regrettably and prematurely the Missouri Department of Agriculture will appropriate \$2,700,000 from General Revenue (i.e. taxpayer) and “other” funds for the Ethanol Producer Incentive Program—a program designed solely to benefit special interests that may be costing us energy rather than generating it.

Although the most vocal proponents of ethanol are representatives of various Corn Grower Associations, it seems that, like the Farm Bureau, these organizations are representing the huge agricultural megacorporations rather than the family farmer.

Coda:

After the first draft of this article was written, there appeared yet another article (Farrell et al. January 27th 2006, *Science*) lauding the benefits of ethanol, and criticizing the analyses of Pimentel and Petzak. In responding to this article, Tad Patzek (personal communication) pointed out a litany of concerns in the Farrell analysis that: ignore corn grain energy as an input into the process, artificially elevate the ethanol product by including non-ethanol components, similarly reduce the energetic costs of distillation, accord an energy benefit to low quality feedstock co-products that are irrelevant to the ethanol production equation, ignore and misrepresent important literature on the subject, and seem required to produce results consistent with non-reviewed publications orchestrated by corn grower associations. Indeed, Patzek further suggests that the Farrell paper is yet another example of the new paradigm in which science become merely a tool to justify conclusions stemming from political ideology. {Pimentel (personal communication), meanwhile, additionally pointed out that the Farrell paper ignores the energy costs of farm labor, reduces without documentation the energy costs of farm machinery, and ignores the environmental costs of soil erosion, water, pesticide, herbicide, and nitrogen fertilizer use. Pimentel also pointed out that lead author Farrell, speaking also in 2006, argued that while one can run a car on ethanol, producing ethanol under current technology is expensive and releases pollution and greenhouse gases, a comment that directly contradicts the message in the *Science* article.

It is also worth pointing out that Kevin Hassett, a resident scholar and director of economic policy at the American Enterprise Institute (one of the core neo-conservative think tanks that promotes business interests and free enterprise—and is hardly a tree-hugging liberal or progressive organization) recently posted an ethanol analysis to the AEI website entitled “Ethanol’s Big Scam, and Bush Has Fallen for It”—(http://www.aei.org/publications/pubID.23871,filter.all/pub_detail.asp).

Hassett noted that the Bush State of The Union Address recognized the U.S. addiction to oil by encouraging the development of more efficient alternative energy sources. But Hassett then identified the core elements of the pro-ethanol disinformation (also know as deception) lobby that ethanol: lowers our reliance on fossil fuels, helps clean the environment, and will save the family farm. Hassett also endorsed the notion that ethanol production consumes too much fossil fuel energy to justify its development, suggested that cars burning ethanol produce more pollution, and suggests that if it were as promising as proponents suggest it would be the subject of a competitive race among energy companies and would not require a subsidy. Hassett suggests, therefore, that the ongoing subsidy for ethanol production is all that is keeping it going. ☹

Outings Continued

Wilderness Licking, MO. Want two nights of sleeping in the woods over a weekend? Join us backpacking by moon light to our first camp site Friday night. \$10 donation requested. Bryan Ohrman, (816) 214-7875, pbandj14@comcast.net

Apr 29 (Sat) Dayhike, Watkins Woolen Mill Sate Park and State Historic Site, Lawson, MO. We'll hike the Williams Creek Lake trail (3.8 miles) then tour the historic Watkins home and woolen mill. \$5 donation requested. Anne McDonald (913) 384-6645 pamcdonald@kc.rr.com

May 6 (Sat) Exotic Botany at the Farmer's Markets, KC, MO. Investigate plant materials from international grocery stores, farmer's markets, and produce sections of mainstream grocery stores Richard Frazier frazier@cmsu1.cmsu.edu

May 7 (Sun) Geocaching, Grain Valley, MO. Join us on Monkey Mountain for this high tech scavenger hunt using GPS. Great fun for kids as well as adults. GPS not required. \$5 donation requested. Dave Patton (816) 461-6091 dave.patton@missouri.sierraclub.org

May 13 (Sat) Flowering Trees Hike, Kansas City, MO. Come see and smell a unique variety of flowering trees on the grounds of Linda Hall Library. \$5 donation requested (Mothers free). Eileen McManus, (816) 523-7823.

May 19-21 (Fri-Sun) Buffalo River Float Trip, AR. Join us as we float a section of the Buffalo River, in Arkansas. Designated our nations 1st National Scenic River way. We will haul our gear with us, and spend one night along the river. Deadline for signup on this trip is April 23. \$10 donation requested. Melody Gross (816) 228-6563 melody.gross@missouri.sierraclub.org

Jun 3 (Sat) Liberty Memorial, Kansas City, MO. Tour the Liberty Memorial guided by an architect who worked on the recent restoration. \$5 donation requested. Blake Elliot, (816) 363-4082, kansascityblake@aol.com

Jun 10-11 (Sat-Sun) Bicycle & camp on the Katy Trail, MO. Rekindle your relationship with your two wheeled friend, as we ride and camp along the Katy trail. Approx. 25 miles each day, spending the night at a local campground. Sign up early as we will limit registration to 12 participants.

\$10 donation requested. Paul Gross (816) 228-6563, paul.gross@missouri.sierraclub.org

Jun 17 (Sat) Tallgrass Prairie Walk, Olathe, KS. Kill Creek has as many as 200 plant species on a 20-acre remnant that has never been plowed. See how many you can identify. \$5 donation requested (Fathers free). Mike Miller (913) 362-2600 mrmiller1@mindspring.com

Jun 24 (Sat) Star Party, Louisburg, KS. Join us at 8 p.m. at Powell Observatory in Louisburg, KS www.askc.org for a public program and weather permitting, we'll observe the night sky through the biggest telescope in six states. Please bring \$3 donation for the observatory. Ellen Brenneman (816) 213-2415 ebrenn1@yahoo.com

Trail of Tears Group

None submitted.

White River Group

None submitted.

Outings Leader Training Workshop

If you're a Sierra Club outings leader or you want to become one, this interactive and educational workshop is for you. Space is limited, so sign up soon!

Where:	At Cuivre River State Park near Troy, MO (near St. Louis)
When:	July 7-9, 2006
FRIDAY	• Check-in begins at 4pm. Dinner served at 6pm • Opening Program – 7:30
SATURDAY	Programming all day and early evening
SUNDAY	Workshop ends with lunch and raffle at noon.
Cost:	\$45 that includes all meals, snacks, lodging (bunk style), materials, raffle entry, and Outings t-shirt.

The purpose of this training is to provide leaders with the skills to address leadership and group management issues that may arise on short outings (day-hikes) and longer duration, more remote outings. Leader training is a never-ending process, so whether you're an old hand or have never led before, you're invited to attend a weekend of interactive learning, networking with leaders from *all* outing programs, and of course, lots of fun. This training event is brought to you by the Outdoor Activities Training Program (OATP), managed in the Outings Department of the National office. This is the only Outings Leader Training workshop in the region this year!

WHAT IS THIS WORKSHOP ALL ABOUT?

The goals of the workshop are to learn and enhance leadership and group management skills; to bring people and programs together to share and exchange ideas; to welcome new outdoor leaders; to learn what it takes to lead for other outings programs of the Sierra Club; and once again, to have a lot of fun. This workshop is for

new and seasoned leaders from Sierra Club's Inner City Outings (ICO), Group & Chapter Outings (GCO), and National Outings (NO).

The workshop agenda includes interactive modules on trip planning, group management, interpersonal leadership skills, emergency response and much more. Topics will be facilitated in both large group and small breakout group formats. Sessions will also include teamwork and scenario-based role plays.

The workshop is facilitated by OATP trainers (volunteer and staff) who speak from a wealth of personal trip leading experience.

As an added benefit, this workshop will fulfill both the Outings Leader Training 101 and Outings Leader Training 201 requirements.

Registration Info

- To learn more and register: <http://www.sierraclub.org/outings/training>
- 3 other ways to register (Include name(s), address, telephone #, email, membership #, and workshop # **06991A**)

MAIL check or money order for \$45
Sierra Club Outings
85 Second Street, 2nd Floor
San Francisco, CA 94105

CALL - credit card only:
415-977-5588
Monday-Friday, 8:30-5, PST

FAX - credit card only:
415-977-5795
Include Card Number,
Expiration Date and
Signature

Limited to 50 people - first come, first served. Questions? Contact the Sierra Club Outdoor Activities Training Manager at outings.training@sierraclub.org or at (415) 977-5711

SIERRA CLUB OUTINGS OZARK CHAPTER

Eastern Missouri Group

<http://missouri.sierraclub.org/emg/outings.aspx>

Apr 14 (Fri) Bluebell time at St. Francis State Park. The patch gets better every year on our 6-8 mile hike. BBQ at C.B. Joe's afterward. Suzanne Smith, (618) 281-4762.

Apr 15 (Sat) Castor River. This is a small stream that can only be done in the spring in SE Missouri. It goes through woodlands and pasture lands. This stream may have some portages. If there is time, we may stop at Amidon State Park. Colin Maag, (314) 721-7397, colinmaag@sbcglobal.net.

Apr 15-16 (Sat-Sun) Our last trail maintenance of the spring. We should be finished with the Ozark Trail and can move on to hiking the Brushy Creek Trail. There are several areas where we need to flag reroutes. We will meet at the commuter parking lot at Gravois and 270 at 7:30 a.m. and car pool down to to Himont Site with a pit stop at Hardees in Park Hills. Common commissary for dinner Saturday night. Paul Stupperich, (314) 429-4352, lonebuffalo@earthlink.net., or Bob Gestel, (636) 296-8975, rgestel@sbcglobal.net.

Apr 19 (Wed) Newsletter deadline for outings from June 15 to August 31. Ann Eggebrecht, (314) 725-1560, or Mark Schuermann (636-394-6265).

Apr 21 (Fri) Hopefully the Blue-eyed Marys won't be flooded this year on our 6-8 mile hike at Washington State Park. If you don't know what Blue-eyed Marys are you are in for a treat. Suzanne Smith, (618) 281-4762.

Apr 23 (Sun) Earth Day celebration at the main lower level entrance to the Muny Opera in Forest Park. Please volunteer for a few hours with fellow Sierrans in a lemonade booth or an exhibit booth. 10 am to 6 pm. Call the office, (314) 644-0890, or Jim Young, (314) 664-9392.

Apr 28 (Fri) It's the big one. Join us (if you dare) for the 12-13 mile hike around Council Bluff Lake. Stay over for Saturday's Ozark Trail Dedication Ceremony. Suzanne Smith, (618) 281-4762.

Apr 30 (Sun) One day canoe/kayak trip in the Meramec basin. Enjoy an uncrowded Ozark stream. Toni Armstrong & Richard Spener, (314) 434-2072.

Apr 30 (Sun) Day hike at Lower Rock Creek. This area is being threatened by a change in status that would allow motorized vehicles here. We will follow the creek to the border of the wilderness area and then hike in the hills above. Bob Gestel, (636) 296-8975, or rgestel@sbcglobal.net, or Paul Stupperich (314) 429-4352, or lonebuffalo@earthlink.net.

May 5 (Fri) Lots of Spring flowers on our hike at Shaw Nature Reserve. Always a great hike. Suzanne Smith, (618) 281-4762.

In order to participate on one of the Sierra Club's outings, you will need to sign a liability waiver. If you would like to read a copy of the waiver prior to the outing, please see <http://www.sierraclub.org/outings/chapter/forms/> or call (415) 977-5630.

In the interests of facilitating the logistics of some outings, it is customary that participants make carpooling arrangements. The Sierra Club does not have insurance for carpooling arrangements and assumes no liability for them. Carpooling, ride sharing or anything similar is strictly a private arrangement among the participants. Participants assume the risks associated with this travel.

May 12 (Fri) It's azalea time and maybe yellow lady-slippers at Hawn State Park. Oh, and mushrooms too! We might do all 10 miles. Suzanne Smith, (618) 281-4762.

May 13 (Sat) Short hike at Valley View Glades. Hopefully the flowers in the glades will be in bloom. We will start early before the heat of the day and go somewhere for lunch after the hike. Bob Gestel, (636) 296-8975, or rgestel@sbcglobal.net, or Paul Stupperich (314) 429-4352, or lonebuffalo@earthlink.net.

May 13 (Sat) Highway Cleanup. With opossum young about to emerge we would like to have things tidy. Diane DuBois, (314) 721-0594.

May 19 (Fri) On our 10 mile Goggins Mountain hike we might see the view of the great dam break if the trees don't block the view. Suzanne Smith, (618) 281-4762.

May 21 (Sun) Afternoon stroll at Bellefontaine Cemetery's forested serpentine paths as we look at various unusual grave sites including that of William Clark and Alolphus Busch. Kevin Hunter, (314) 544-5157.

May 27-28 (Sat-Sun) Enjoy a two day float on the Jack's Fork River. We will canoe about 24 miles on a river that is described by the Missouri Dept. of Conservation as "one of the wildest and most scenic of the Missouri Ozark streams". Please contact Jim Rhodes at (314) 821-7758 for more details.

Jun 2 (Fri) Eight mile hike to Weldon Springs. Suzanne Smith, (618) 281-4762.

Jun 3 (Sat) Picnic for trail workers and glade restorers and "wannabes." Where? At a nearby county park. This will be a potluck event. Bring your favorite dish to share. For details, Bob Gestel, (636) 296-8975, rgestel@sbcglobal.net, or Paul Stupperich (314) 429-4352, lonebuffalo@earthlink.net.

Jun 4 (Sun) Day canoe/kayak trip on a small stream. Depending on water level we may paddle the Courtois, Huzzah, Mineral Fork or Big Creek. May or may not have rental canoes available. Jonathan Lehmann, (314) 991-3969.

Jun 9 (Fri) Maybe bike or hike. Call Suzanne Smith, (618) 281-4762.

Jun 10 (Sat) Find lots of "creepy-crawlers" as we test water quality on Fox Creek near Eureka. Help us identify the aquatic insects, test for DO and other chemical parameters, and measure stream flow. We should see a lot of macro invertebrates. Call Leslie Lihou at (314) 726-2140, or Jim Rhodes (314) 821-7758.

Jun 16 (Fri) Bike from Creve Coeur Lake across the river to the Katy Trail. Approx. 20 miles total. Suzanne Smith, (618) 281-4762.

Jun 18 (Sun) Father's Day canoe/kayak trip on a stream in the Meramec basin. Stream will be determined by water level. Toni Armstrong & Richard Spener, (314) 434-2072.

Jun 23 (Fri) End to end 7.5 mile hike on the Chubb Trail in St. Louis County. Suzanne Smith, (618) 281-

4762.

Jun 30 (Fri) Let's hike six or so miles at Castlewood State Park along the Meramec River. Suzanne Smith, (618) 281-4762.

Osage Group

Apr 5 - May 17 (Wed) Wildflower Walks. Join Randal Clark for his annual Spring Wildflower Walks. Learn about wildflower identification while taking a walk on the wild side. Dinner after the hike at a local restaurant. Meet each Wednesday at 5:30 p.m. at the Devil's Icebox parking lot of Rock Bridge Memorial State Park. Randal Clark, (573) 875-0514.

Apr 8 (Sat) Clean Up Columbia Day. Help us keep our city clean at the 10th annual cleanup. Includes free lunch. Greg Leonard, (573) 443-8263, greg.leonard@missouri.sierraclub.org

May 6 (Sat) River Relief. Plan to help us clean up the Missouri River near Bonnett's Mill (mouth of the Osage River). More information at www.riverrelief.org. Greg Leonard, (573) 443-8263, greg.leonard@missouri.sierraclub.org

Thomas Hart Benton Group

<http://missouri.sierraclub.org/thb/outings>

Jan-Apr Restoration, Hidden Valley Park KCMO. Get on our list if you are interested in being contacted to help lop the invasive honeysuckle at Hidden Valley in our ongoing efforts. Doris Sherrick (816) 779-6708 dsherrick@missouri.sierraclub.org

Mar-Jun Canoeing, Kaw River KS All day canoe floats up above Lawrence on the Kaw River. For specific information check our web site, call your outings chair or contact Jim Fox canoeist3@msn.com

Apr 1 (Sat) Dayhike, Perry Lake Trail, Perry, KS. The Kanza Group maintains this trail, so let's get out and enjoy it. No work, I promise (no fooling). \$5 donation requested. Contact via email preferred. Bob Wilshire (913) 384-6645, rjwilshire@kc.rr.com.

Apr 8-9 (Sat-Sun) Beginner's Backpack, Clinton Lake, KS. This short 4.5 mile loop passes through wooded hills and fields with good views of the lake. \$10 donation requested. Eileen McManus, (816) 523-7823.

Apr 20-23 (Thu-Sun) Car Camping, Mountain View, AR. Join us for our 3rd annual trip to Blanchard Springs Recreation Area and the Ozark Folk Center State Park. Deadline for signup on this trip is April 6. \$10 donation requested. Dave & Kathy Patton (816) 461-6091 dave.patton@missouri.sierraclub.org

Apr 23 (Sun) Scavenger Hunt, Ernie Miller Nature Center, Olathe, KS. Join us at 2 p.m. at Ernie Miller Nature Center www.erniemiller.com for a nature "scavenger hunt." Kids welcome! \$5 donation requested. Ellen Breneman (816) 213-2415 ebrenem1@yahoo.com

Apr 28-30 (Fri-Sun) Backpacking, Paddy Creek