Summer 2004

SEJournal

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Covering Water

Ask basic questions: Can you drink it? Can you swim in it?

EDITOR'S NOTE: Maybe it's best for the environmental journalist to think in more basic terms about the beat. It's not the environment. It's the air we breathe. The food we eat. The water we drink. How much more basic can it be?

In this issue, SEJournal *presents some basic tips and information on covering water issues.*

By ROBERT McCLURE

What people want to know most about the lakes, streams and bays that surround them can be boiled down to a few basic questions:

How clean is the water? Clean enough to drink? Clean enough to swim in? How about fishing? Is the government fulfilling its duty to safeguard our water supplies?

You can give your readers, viewers or listeners pretty good answers to those questions by learning about enforcement of two landmark federal laws, the Clean Water Act and the Safe Drinking Water Act. No matter where you're working, there's sure to be a good story here. The issue can be covered at a local, state or national level and there's lots of room for improvement.

You could read a whole book about either law – plenty have been written – but in this article we offer a primer that can quickly get you started on your own stories. You'll find as you report on these bedrock federal environmental laws that you can get as intricate as you'd like.

THE CLEAN WATER ACT

"It is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985…

"It is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited…

"It is the national policy that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner…"

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Inside Story:

Proving that a neighborhood is polluted and dangerous

By MIKE DUNNE

Comparing databases on environmental risk and deaths helped *The Indianapolis Star* document a difficult story – that a community surrounded by industry is "a dangerous neighborhood to live in."

Photo courtesy of THE INDIANAPOLIS STAR

Fifteen-year-old Doug Patterson mows his lawn, with Reilly Tar and Chemical in the background.

It's the kind of story that many reporters hear about but often can't find a way to document.

Computer-assisted reporting coordinator Mark Nichols and environment reporter Tammy Webber, along with reporter Bill Theobald, used several databases and lots of shoe-leather to produce "Neighborhood at Risk" Feb. 22-23, 2004.

The Star's investigation found residents living in Marion County's southwest industrial hub:

• Had a higher lung cancer rate than the rest of the county. In one census tract, that rate was 95 percent higher than the county rate.

• Residents of that tract were hospitalized for respiratory problems at rates more than three times the county average in 1998 and 1999.

• State and local environmental and health officials have done almost nothing to investigate documented risks from air pollution or the health problems they may cause.

"This is a bad situation," Professor Steven S. Ross of Columbia University in New York, an expert in statistics and databases who reviewed *The Star's* data, said of the most isolated neighborhood. "I look at this as a dangerous neighborhood to live in."

In addition to the lead story on the first day, entitled "Toxic

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Trophies, checks and balances: Inside SEJ awards

By DAN FAGIN

Is there anything a journalism group can do to make more trouble for itself than handing out prizes every year? Short of doubling dues or banning coffee at the annual conference, I don't think so.

Running a journalism contest is not only a massive amount of work, but it also presents a steady stream of opportunities for ethical lapses and other embarrassments – and for infuriating members, too. Plus, awards play right into the hands of those reporters and editors who dismiss journalism associations as nothing more than engines of self-congratulation. The fact that many of those same critics enter every contest under the sun doesn't change the fact that they're partly right. Some journalism groups really *do* seem to exist solely to hand out checks, trophies and certificates.

When I first got involved in SEJ a decade ago, I was impressed to learn that our organization had other priorities. SEJ's conferences, publications and even listserves were suffused with substance. Even as a newcomer, I could readily see that SEJ's focus is on improving your next story, not bragging about your last one. Cynics might grouse that the activities of some j-groups have all the heft of a Rotary Club luncheon, but they couldn't fairly aim that barb at SEJ. We were contest-free, and we were happy about it.

So, naturally, after I was elected to the SEJ board in 2000, the first big project I got involved in was to create a journalism contest.

It happened because longtime board members, led by outgoing President Mike Mansur, believed that at the ripe old age of 10, SEJ had matured. A decade of heavy lifting by SEJ's leaders had built a firm foundation for our group. Our reputation for meaty programs was firmly established and our finances were reasonably solid. SEJ could rely on a dedicated cadre of volunteers, and a highly organized, professional staff led by Executive Director Beth Parke.

Board members knew how difficult it would be to create and run a large multi-category journalism contest, but Mike convinced the rest of us that we could pull it off in a way that would uphold, and even advance, SEJ's core values.

As SEJers now know, Mike was right. Now in its third year, the SEJ Awards for Reporting on the Environment have been a huge success for our organization and our profession. At a gala ceremony on the evening of Oct. 20 in Pittsburgh – opening night for our 14th annual conference – SEJ will announce the names of the latest set of winners, reaffirming that there is a lot of terrific environmental journalism out there worth emulating.

The awards program has also been a huge help in bringing more journalists into SEJ, and is a key reason why our membership now stands at a record 1,380. We received more than 250 entries in this year's contest, many of them from reporters who have only just discovered SEJ through the contest and now want to join. More members means more participation at conferences and on the listserves, more people using the web pages and reading this journal, more mentors and students, etc., etc. In short, the awards program is helping SEJ reach many more people in our quest for more and better environmental journalism.

And what about all those potential problems: The ethical lapses, the embarrassments and all the rest? Here, too, we're off to a very good start thanks to a lot of care and attention by SEJ staff led by Associate Director Chris Rigel, by the 27 contest judges and by the nine members of the SEJ awards committee. This year's awards committee co-chairs, Tim Wheeler of the *Baltimore Sun* and Vince Patton of KGW-TV in Portland, Ore., have the biggest burden of all. As the chief interpreters of the contest rules, they're charged with making dozens of judgment calls about whether and when non-conforming entries are ready to be forwarded to the judges.

Report from the Society's President

By Dan Fagin

Tim and Vince and the rest of the awards committee – Emilia Askari of the *Detroit Free Press*, author David Baron, Dina Cappiello of the *Houston Chronicle*, Dave Poulson of Michigan State University, Deborah Schoch of the *Los Angeles Times*, independent radio producer Dale Willman and David Wiwchar of the *Ha-Shilth-Sa* tribal newspaper – are all volunteers. By volunteering, they lose the chance to enter the contest and collect a $1,000 prize. Members of the SEJ board of directors, which appoints the awards committee, are also prohibited from entering.

The awards committee recruits all of the distinguished judges who pick the winners, and the committee also has the very important job of deciding whether and how the rules and awards categories should be changed for the following year's contest. Tim and Vince both have some ideas about that, and they're interested in hearing your ideas, too.

At the top of the list is the possibility of reshuffling the nine contest categories. (See www.sej.org/contest for a list of the current categories, as well as lots of other information about SEJ's awards program, including this year's judges.) A key goal of the contest is to encourage great environmental journalism in places where it's especially difficult to do, such as on television, online, and in small-market media. As a result, however, some categories attract many more entries than others. The in-depth print reporting category, for example, received 72 entries this year, only slightly less than all five of the TV and radio categories put together.

"We don't have enough TV entries. We need more. We want more. We want to show that people are doing environmental stories whether or not they consider themselves environmental journalists," said Vince, one of the few TV reporters in the U.S. specifically assigned to the environment beat.

But our desire to encourage more electronic environmental journalism has to be balanced against the reality that right now

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SEJournal

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The Society of Environmental Journalists (SEJ) is a non-profit, tax exempt, 501(c)3 organization. The mission of the organization is to advance public understanding of environmental issues by improving the quality, accuracy and visibility of environmental reporting. We envision an informed society through excellence in environmental journalism. As a network of journalists and academics, SEJ offers national and regional conferences, publications and online services. SEJ's membership of more than 1,300 includes journalists working for print and electronic media, educators, and students. Non-members are welcome to attend SEJ's national conferences and to subscribe to the quarterly *SEJournal.*

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In This Issue

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Spring '05	February 1, 2005
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Whom do we believe?

A scientist's advice on assessing the science

By C. RICHARD CHAPPELL

It is difficult to overstate the impact of science on contemporary culture. Since most scientific advances are esoteric, however, not many become stories that reach people outside the scientific community. According to Richard Klausner, former director of the National Cancer Institute, this is regrettable since "stories of science are among the most precious and most powerful."[1]

Yet some science-related stories do get widespread attention and resonate strongly with the public – particularly when they alert us to hazards posed by yet another behavior, chemical exposure, or drug product. But are the hazards always real? In the complex realm of the environment and human health, studies conflict, new findings cast doubt upon previous ones, and issues often play out as arguments between competing interest groups – each side standing firmly behind their body of scientific "evidence."

So who do we believe? This can be perplexing for many people. Studies indicate a widespread lack of understanding of basic science and the rules that govern scientific research. According to the National Science Foundation's Science and Technology Indicators (2002), "Data on science literacy in the United States indicate that most Americans do not know a lot about science and technology."[2] In addition, "approximately 70 percent of Americans do not understand the scientific process." According to Carl Sagan, the true scientific illiteracy rate of Americans may well be closer to 95 percent.

It is not surprising then that there is a communication gap between the scientific community and the population at large. But journalists have the power – indeed, the responsibility – to help bridge that gap by ensuring their work is grounded in a basic understanding of how science works. In doing so, they help readers distinguish between science, which is worthy of attention, and pseudoscience, which is not.

This paper addresses the characteristics of good science. It is not meant to be comprehensive, but presents some fundamental, common sense notions that sometimes get overlooked in the world of scientific communications, particularly in reports that concern, threaten or enhance human health.

The process of scientific investigation

Philosopher-scientist Herbert Spencer once defined science as "organized knowledge." That's not quite right, however. Your address book is an example of organized knowledge, but it isn't science. A more accurate statement would be that science is the organized *search* for knowledge. And that search has a number of characteristics that comprise the starting point for anyone who wants to understand how scientific investigation works.

Dr. C. Richard Chappell is director of Science and Research Communications at Vanderbilt University. He is co-author of "Worlds Apart, How the Distance Between Science and Journalism Threatens America's Future," published by The Freedom Forum First Amendment Center. *Over the years, he has received funding from NASA and the U.S. Department of Energy. Partial support for this paper came from the Vinyl Institute.*

The method

First, scientific research is governed by the scientific method, which we all learned in high school. It begins with the formulation of ideas and predictions intended to explain some phenomenon observed in nature. The predictions are then tested under a rigorous set of rules and the findings evaluated. If they don't match the predictions, the idea is modified to produce new predictions and the process continues. When the findings match the predictions, they form the basis of a new model or theory that explains the phenomenon.

The point to remember from this is that observations are the *starting point* of scientific research, not the conclusion. Too often, there is a rush to judgment in response to an unexpected disease occurring in a person or group of people. We point the finger at chemicals in the air or water, or at pesticides, drugs, or food additives – since we know many of these substances can be harmful in certain circumstances.

But it's not true in every circumstance. Virtually every situation is unique and there are always other factors involved that need to be examined before any conclusions are reached. The observation of adverse health effects, therefore, indicates a need for focused research more often than it proves that a hazard is present.

The weight of evidence

In addition to being methodical, science can be frustratingly slow. Insight gained from a study or experiment becomes the basis for additional studies, which can lead to more studies, and so on. Eventually, a body of knowledge accumulates that may lean heavily in one direction (*e.g.*, the association between smoking and lung cancer) and thus becomes generally accepted within the scientific community. Scientists typically refer to this as the "weight of the evidence," which is roughly analogous to the scales of justice. The scales dip one way or another over time in accordance with the findings of properly conducted studies and real-world experience.

Scientific findings that conflict with the weight of the evidence could be significant, but generally should engender more caution than those that don't. And the best response to extraordinary claims is to demand extraordinary evidence, not to assume that all previous research can be disregarded.

A couple of years ago, for example, reports surfaced of children who developed signs of autism shortly after being vaccinated. The children's symptoms were certainly real and the reports generated understandable sympathy for the families involved. But they were also extraordinary incidents and should have been portrayed as such, since the weight of the evidence overwhelmingly refutes the theory that vaccines cause autism.[3] Unfortunately, some stories on the topic obscured this fact – a problem we'll return to later.

Cause or coincidence?

The vaccine story also illustrates another crucial tenet of science – especially medical science – that often gets blurred in reports that feature sick or dying individuals: *correlation is not necessarily causation*. Someone once measured a marked decline

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SEJ WatchDog Project tracks First Amendment threats

By JOSEPH A. DAVIS

SEJ's WatchDog Project is bearing witness to an accelerating erosion of journalists' access to environmental information that began at least five years ago. And SEJ is now fully engaged in efforts to protect the news media's and the public's right to know.

A lot is happening – some so fast and so quietly that it is hard to track. SEJ's *WatchDog* newsletter is now on a regular biweekly schedule, and coming to members and the public via e-mail, website, and web log. (It is edited by the author of this article).

SEJ's First Amendment Task Force, chaired by Ken Ward, Jr. of the *Charleston* (W.V.) *Gazette,* has called for greater media access to environmental information on the record in a number of government proceedings in the last few years. You can read specifics on the SEJ website at www.sej.org/foia/index.htm .

None of this would have been possible without grants to SEJ from the Rockefeller Family Fund and the McCormick Tribune Foundation to support the work of the Task Force and its WatchDog Project. SEJ's past and current presidents James Bruggers and Dan Fagin, as well as SEJ board and staff, have stood squarely behind it.

Watchdogs have to react quickly as well as barking loud. For example, there is a 30-day comment period on the Office of Management and Budget's recent revisions to its scientific peer review policy. Political meddling with science has been big news recently – and these regs affect journalists because they may affect whether scientific studies of environmental health effects can be published.

SEJ's Task Force and WatchDog Project are designed for quick reaction. SEJ's Board meets only quarterly, but the Board has appointed one of its members, Robert McClure of the *Seattle Post-Intelligencer,* as a special liaison with the Task Force. Moreover, we have a new team member on the SEJ Board – Rebecca Daugherty, the long-time stalwart staffer at the Reporters Committee for Freedom of the Press. So, with a precise mandate from the Board (we take positions on information access, not environmental politics), we can act decisively as fast-moving events unfold.

The project's work tempo has increased since January 2004, when the McCormick Tribune grant kicked in. Not only has the *WatchDog* newsletter gone biweekly, but we are building a larger circulation within the journalism and First-Amendment communities. We are helping build a new Coalition of Journalists for Open Government, which, piloted by former *Miami Herald* managing editor Pete Weitzel, includes virtually all major U.S. journalism organizations.

Journalists are most comfortable and effective doing what they

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Six positions open on SEJ board this year

Six positions on the 16-member Society of Environmental Journalists Board of Directors will be up for election this year.

The vacancies will be filled both by absentee ballot starting in September and by members attending and voting at the SEJ annual business meeting at 4:30 p.m. Oct. 22 in Pittsburgh, Pa. Results of the election are posted that day.

The call for candidates will be issued by the Election Committee in mid-June. Candidates seeking election to the Board must file a one-page brief outlining their qualifications and other material prompting them to seek election to the Board by Aug. 20.

The openings include seats now held by Perry Beeman, first vice president of SEJ; Peter P. Thomson, treasurer; Brenda Box and Timothy Wheeler. Two other positions include the academic seat held by Mark Neuzil and the associate seat held by Rebecca Daugherty. Daugherty was appointed to the Board in March to fill a vacancy created with the resignation of Phillip Bailey.

The four posts to be filled by active members include persons primarily engaged in reporting, editing and photography on general circulation publications. The associate post is filled by persons who are primarily engaged in journalism but do not qualify as active members. The academic category includes faculty members and students at accredited schools.

Important Election Dates:

- **Aug. 20:** Deadline for submitting candidate statements.
- **Aug. 23:** Must be a member in good standing in order to vote.
- **Sept. 22:** Ballots mailed.
- **Oct. 15:** Deadline for absentee ballots to be received.
- **Oct. 22:** Voting at annual meeting in Pittsburgh, Pa.

People who desire to seek office must file a one-page statement – and picture if they choose – to Elections Committee, Society of Environmental Journalists, PO Box 2492, Jenkintown, PA 19046 by Aug 20. Copies of the election rules are available at www.sej.org or by contacting the SEJ office.

The board, headed by President Dan Fagin, includes 14 active members and one each representing associate and academic members. The latter two are both non-voting positions.

Absentee ballots, along with the candidate's statements, will be mailed to members in September and must be returned by Oct. 15. Members must be in good standing (accepted for membership and current with dues) as of Aug. 23 in order to vote.

The board has directed the elections committee to post candidate statements on the SEJ website www.sej.org for the first time this year. The board also directed that members be given the opportunity to request email notification of the election by signing up this year for future elections.

Members of the elections committee are named each year by the board. The 2004 committee includes Cheryl Hogue of *Chemical & Engineering News,* Chris Rigel, associate director of SEJ, and committee Chairman Paul H. MacClennan, retired environmental reporter and freelance writer.

Hot, hotter books, fresh eyes, prizes and some career moves

By ELIZABETH McCARTHY

Before "The Day After Tomorrow" showed up at movie theaters near you, a group of SEJers coauthored a book on one of the hottest political, scientific and environmental topics of the times.

"Feeling the Heat, Dispatches from the Frontlines of Climate Change," edited by **Jim Motavalli**, delves into how people around the globe, from the Antarctica to the Caribbean, are coping with the unprecedented temperature changes wrought by excess CO2 emissions. It includes chapters **by Orna Izakson, Ross Gelbspan, David Helvarg, Mark Hertsgaard, Kieran Mulvaney, Dick Russell** and **Colin Woodard**.

Media on the move

"It's the first book to make the assumption that global warming has already started – that the scientific debate is essentially over," Motavalli said. Shortly after "Feeling the Heat" was published in March by Routledge, Motavalli, along with Izakson, **Sally Deneen**, and photographer **Gary Braasch,** did a West Coast tour to promote the book, which included being hosted on Oregon Public Broadcasting's *Oregon Territory,* produced by Christie George.

Robert Bryce has a new book on a related subject; the Bush family's oily Texan brotherhood. Out at the end of May, "Cronies: Oil, the Bushes and the Rise of Texas, America's Superstate," published by PublicAffairs, tells how Texas' business and politics became the nation's business and politics. "'Cronies' shows that the Second Iraq War is simply the latest example of Texas' ongoing colonization of the Persian Gulf and that oil is the single biggest motivating factor behind the war," Bryce said.

Hoping for a change for the better and attaining a brighter, sustainable future is the subject of **Carl Frankel's** new book. "Out of the Labyrinth: Who We Are, How We Go Wrong, and What We Can Do About It," was published by Monkfish Publishing Co. It is a story that "combines a visionary framework, a personal narrative and cultural criticism," according to Frankel. But it doesn't end there; it also details how we can reverse our destructive, unsustainable course.

Looking at the bright side, SEJers continue to reap hot awards.

Ilsa Setziol, environmental reporter for KPCC in Pasadena, Calif., won the Society of Professional Journalists' 2003 award for Radio Feature Reporting. Her piece focused on the impact of U.S. diversions of the Colorado River on wetlands in Baja and Sonora, Mexico, and the native peoples.

Setziol, who was new to the environmental beat, heard that the death of this delta was an old story. She, however, wanted to find out what that meant. During her adventure, she was taken to salty marshes inadvertently created by seepage, which were home to rare and endangered species.

Looking at the issues with fresh eyes highlighted for her how we reporters often incorrectly assume because we, and our sources, know a story there is nothing new to report. The experience also was another example that environmental stories, which get little attention in broadcast media, are "rich with sound and drama," Setziol said.

Mike Mansur of *The Kansas City Star* won first place in the National Headliner Award for news beat coverage. His stories focused on the Kansas City Hall's waste of money and resources.

But one of those stories had an environment bent. It looked at how the city wastes 12 billion gallons a year of treated drinking water – one-third of the city's supply. Some of the water was simply given away or not metered, some going to the once city-owned zoo or the city's numerous fountains. But most of the city's water loss – at a rate more than twice what national experts say is acceptable – just leaked from the city's decrepit pipes and associated distribution system.

The American Planning Association awarded *The Bakersfield Californian* reporter **Matt Weiser** its 2003 Journalism Award for medium sized newspapers for his series on how sprawling development exacerbates air pollution. His piece "Smog, A Growing Concern" covers two days in June 2003, noting that local leaders turned a blind eye to the problem in their smog-plagued region. The Associated Press News Executive Council for California and Nevada gave the piece second place in its Fairbanks Public Service Award.

The Best for Gannett competition awarded **Jim Bruggers** the outstanding individual achievement award for his stories on toxic air pollution in Louisville.

The Marine Biological Laboratory in Woods Hole, Mass. awarded five journalists summer fellowships in environmental science. They include **John Carey,** a senior correspondent at *Business Week* and freelancers **Rebecca Clarren, Adele Conover, Elizabeth Grossman** and **Eugene Russo**.

Elizabeth Bluemink, formerly with the *Pensacola News Journal*, is going from hot to cold and heading north, far north, in late June. She has taken a job as natural resources reporter for the *Juneau Empire* in Alaska.

Reuters' Alaska correspondent and freelancer **Yerth Rosen**, who successfully launched another long-term assignment. She gave birth to her second child, Martin Samuel Rosen, on April 18.

Bill Allen will begin teaching journalism at the University of Missouri this summer.

Elizabeth McCarthy is editor of California Energy Circuit. *Please send her the latest on a job move, award, book or other impressive endeavor you have launched at editorial@californiaenergycircuit.com or e2mccarthyl@cs.com.*

Pittsburgh promises stars, elections and more

Pittsburgh continues its historic role as a "gateway city" Oct. 20-24 as it hosts the 14th annual Society of Environmental Journalists conference. An early staging location for settlers west of the Appalachians and the starting point for Lewis and Clark's journey of discovery, the city at the "Forks of the Ohio" provides the perfect portal for SEJ's exploration of environmental issues during this presidential election year.

Provocative and topical speakers will discuss environmental issues, science and policy, and a record number of tours and mini-tours will take conference goers into the urban core and far afield.

Wednesday evening features a celebrity cast with a Pittsburgh focus – most lived or went to school in the area – that will explore the role and influence of the entertainment industry in the environmental debates. Ted Danson has agreed to participate, along with Mimi Rogers, Michael Keaton and Donna Mills. Woody Harrelson, Martin Sheen and Dick Gregory also are invited. The panel will be moderated by *New York Times* environmental writer Andrew Revkin.

Robert F. Kennedy Jr., a crusading environmental attorney for the Riverkeeper organization in the Hudson River valley and now with Natural Resources Defense Council, delivers a keynote address Thursday evening at the Carnegie Museum of Natural History.

Friday morning opens with an address by former Utah governor and current U.S. Environmental Protection Agency Administrator Michael Leavitt (invited), who will talk about Bush administration environmental policies and answer some of our questions.

We'll continue in the policy vein on Saturday morning with a high-powered plenary exploring charges that politics is exerting undue influence on scientific study of environmental issues. We've invited some of the Bush administration's leading policy makers along with scientists and policy wonks who won't see eye-to-eye with them.

Tours on Thursday and Saturday offer an eye-opening array of compelling and emerging environmental topics.

One will travel north to Lake Erie's Presque Isle State Park, the nation's second most visited park (behind Great Smoky Mountains), to investigate Great Lakes issues. Another will fly its participants south into West Virginia for a bird's eye view of mountain top removal sites that threaten to rewrite the old John Denver tune.

Sure to fill up early are tours to Frank Lloyd Wright's Fallingwater and Kentuck Knob homes, highlighting early environmental architecture, and to Rachel Carson's family homestead and the Rachel Carson Institute at Chatham College, her alma mater.

Another tour will rumble through the coal fields of southwestern Pennsylvania to examine the effects of longwall mining – a deep mining technique that causes immediate subsidence of up to four feet – on houses, communities and streams. Another will visit Johnstown, where an 1889 dam failure killed 2,209 people and where we hope to witness the more controlled breaching and removal of one of five dams that will be dismantled in the area this year.

Yet another tour will travel to the site of the first nuclear accident in the United States – not Three Mile Island (it's too far) – but Waltz Mills, an experimental Westinghouse facility where a partial meltdown occurred in 1960. The $50 million cleanup that is now just about complete started with out-of-work coal miners using Comet cleanser and women's sanitary napkins to wipe down contaminated reactor and containment vessels. This tour also features a stop at an alternative energy provider – one of the wind farms that make the state the biggest wind power producer east of the Mississippi.

A brownfields tour of the Mon Valley, where Pittsburgh's steel mills inspired the famous "hell with the lid off" description, will stop in Donora, where in 1948 toxic air pollutants killed 22 people and led to some of the nation's first air pollution control laws. It will also visit US Steel's Clairton Coke Works, the largest coking facility in the world, and the Pump House in Homestead, all that's left of the famous mill where an army of Pinkerton police battled striking steelworkers in 1892. In the day-long gun battle, three Pinkertons and seven steelworkers were killed and many more wounded. A new Target store is part of the redevelopment of the old steel mill site.

EPA Administrator Mike Leavitt

Other tours will do hands-on water sampling on Pittsburgh's rivers and check out security at chemical plants along their banks, and travel to one of the longest operating bird banding and small mammal research facilities in the East.

On Saturday, a full slate of mini-tours will get your feet wet while canoeing or kayaking on the rivers, get you on a bicycle for a tour along those rivers, or out for a hike through McConnell's Mill State Park where the last ice age left a boulder-strewn terminal moraine and loggers have left a remote stand of old growth. An indoor tour will visit some of the new environmentally sensitive office buildings in the city's downtown.

The conference will also offer an array of panels to journalists who want to keep abreast of the latest information and trends on topics such as environmental justice, wilderness, sprawl, urban parks, acid mine drainage, longwall mining subsidence, new green building strategies, airborne soot, women's environmental health and the First Amendment.

And, since we'll be convening just a couple of weeks before a crucial general election in a swing state there's a chance President Bush and Sen. John Kerry will accept our invitations to come and hang out.

Sunday's getaway event will feature writers at the National Aviary. Annie Dillard, a Pittsburgh native, is invited.

SEJ will present its annual environmental journalism awards on the conference's opening night, Wednesday.

So keep looking for conference details on SEJ's website at www.sej.org. New speaker confirmations, and panel and tour updates will be posted as they become available.

Making numbers real

Or, how do I show how little 12 parts per billion is?

By JANET MCCONNAUGHEY

We often have to make enormous or minuscule numbers real for readers.

What would a million gallons look like?

Or 12 parts per billion?

You can find explainers for some of those on the Web. One site compares one part per million to the space a credit card takes on a football field. But sometimes an image closer to home is more useful.

Resources on the Web make it relatively painless to get from something with a lot of zeroes to a picture.

For example, let's answer our first question from above. How big is a million gallons?

A good first stop is www.convertit.com. If you want to be more precise, www.convertit.com/Go/ConvertIt/Measurement/Converter.ASP.

You type the measurement you have – either "1 million gallons" or "1000000 gallons" will work – into its left-hand box, and the one you want into the right.

Hit "enter" and hey presto!

"1000000 gallon = 133680.555555556 foot^3"

(It will also give you a passel of unasked other equivalents, some of which you may be meeting for the first time. A million gallons equals 95,485.22 Israeli ephahs, or 64,963.5 Chinese tous. Not to mention 126,180,392,800 drops.)

Getting back to our 133,680 cubic feet of water.

How big a cube would that be? I have no idea how to derive cube roots, so I look for a cube-root calculator.

The standard search engines aren't selective enough. I prefer the advanced versions, which have one form or another of boolean searching: searches with and, or, not and phrases.

Click on Google's advanced search (my home page) and you get a form you can fill in like so:

"With all of the words: calculator"

"With the exact phrase: cube root"

Hit "enter."

One of its high choices is www.csgnetwork.com/cuberootcubecalc.html.

I plug in 133680.

The calculator tells me that its cube root is 51.131532832092766.

Assuming about 10 feet to a story, we get a cube just over 5 stories high.

Need FOI information?

visit www.sej.org

For another way to look at it, drop by www.usoc.org and see how many gallons fill the pool where the U.S. Olympic team trains. It's 810,000. So a million is enough to fill that 50-meter, 10-lane pool 1.25 times.

Or go to your local university's website and see if it gives cubic footage or dimensions for its arena. How does its cubic footage compare to that of a million gallons?

Just in case you were wondering, the Superdome in New Orleans could hold more than 935 million gallons of water. Or almost 22.3 million (petroleum) barrels.

Here's a note about convertit.com. If your result shows up as a weird-looking formula rather than as a number, you've given it a problem it can't figure out. I asked it to convert a city block to square feet, and got

Conversion Result:

city block TO foot^2 = 984.251968503937 / meter

(length) (area) (wave number)

Its database considers a city block only as a linear measurement. So I stuck "square" in front of "city block" and got:

"city block^2 = 90000 foot^2"

If my arithmetic is correct (and I always was better at math than arithmetic), that means our million gallons of water would cover a city block almost 1.5 feet deep.

Now, how about that second question from above: What about 12 parts per billion?

First convert a billion drops to gallons. Using www.convertit.com, we can find that a billion drops is 7925.2 gallons. ("A billiondrops = 7925.16157074445 gallon.")

While we're playing with that number, this also tells me: 1 drop = 0.03 milliliter = 1.01442068105529E-03 fluid ounce = 30000000 picoliter = about 1/164 tsp or 1 teaspoon = 164.297386458333 drops.

But back to the key figure: a billion drops is 7,925.2 gallons.

In turn, that converts to 1,059.4 cubic feet.

Another search, for calculator, prime and factor, gets http://newmanservices.com/primefact.

So 1,059 is 3 times 353. That's not really useful, so we fudge.

We're talking analogy here, after all.

So 1060 is 2 x 2 x 5 x 53. A pool 53 feet long, 10 feet wide and 2 feet deep. (holding 1,000,528,579.584 drops).

Or a pool 23 feet square and 2 feet deep would hold a little more than 998.6 million drops.

Finally, 12 parts per billion would be about 12 drops in one of those pools. Or might it be 11 in the smaller one?

Janet McConnaughey writes for The Associated Press in New Orleans.

Nanotechnology: Tiny things raise big issues

By PAT PHIBBS

Anyone who has choked after being passed by a smoke-spewing diesel bus can appreciate the concerns being raised about nano-sized particles. The cocktail of pollutants in diesel exhaust includes nano-sized, also called ultra-fine, particles. A growing body of scientific evidence is showing these tiny particles can enter our lungs where they may cause respiratory and heart problems.

The growing nanotechnology industry also produces such tiny particles. Their health and environmental effects are not known.

Science Survey

Yet, anyone who has lathered clear sunscreen on his or her face – rather than the white goop we used to use – is enjoying a benefit of nanotechnology.

The particles of zinc oxide and titanium dioxide, commonly used chemicals in sunscreens, have been designed to be so tiny that visible light passes right through them, making them transparent. Light bounces off larger versions of the chemicals making sunscreens appear white. Yet both the tiny and large versions of these chemicals absorb and block ultraviolet light from reaching the skin where it can cause skin cancer.

This means risks and benefits – familiar territory for environmental journalists.

But it's becoming a challenge to understand the chemicals, computer parts, environmental cleanup agents, and other materials that have already reached the market with nanotechnology as well as emerging health and environmental questions they are raising.

Nanoparticles can be natural, such as water droplets in ocean spray; inadvertently formed, such as diesel particles; and purposefully created, such as buckyballs – nanoparticles of carbon atoms shaped like soccer balls. The distinguishing characteristic is their size: less than 100 nanometers.

In comparison, DNA measures around 2.5 nanometers; welding fume particles measure 10 to 50 nanometers across; viruses measure 10 to 60 nanometers; and a human hair is about 10,000 nanometers wide.

The ultra-small size of intentionally designed nanoparticles and the arrangement of their atoms gives them unique physical, chemical, and biological properties such as strength and ability to conduct electricity. But their size raises the possibility that they may easily pass through the body's natural defenses and, perhaps, harm health.

Types of products already being made with nanotechnology include sunscreens, high-performance ski wax, stain-resistant clothes, a soil binder to prevent erosion after fires, and tennis balls that keep their bounce longer due to very thin layers of polymer embedded with nanoscopic clay particles that overlap like bricks. Future applications of nanotechnology could include materials to clean up contaminants such as trichloroethylene (TCE) from polluted sites, storing large volumes of data on computers, and capturing solar energy.

So far such nano-designed products have been studied and manufactured without any federally mandated toxicity tests.

(Continued next page)

Nanotech... (from page 9)

There are no regulations targeted specifically at the products made with nanotechnology.

Federal agencies are, however, trying to determine whether oversight is needed, and, if so, how existing regulations might be adapted to cover nanotechnology-designed products. In 1999, the Food and Drug Administration looked at some nano-sized particles in sunscreens and concluded those particles posed no new risks and could be considered the equivalent of larger particles.

Yet, some of the first toxicity studies conducted with nanoparticles sound pretty scary. Günter Oberdörster of the University of Rochester has found ultra-fine particles can go straight from the nose into the brain. In January, a scientific study found that some mice suffocated after carbon nanotubes were deposited into their lungs. And in March, biologist Eva Oberdörster from the Southern Methodist University in Dallas announced that buckyball clusters damaged the brains of exposed fish.

Yet these first toxicity studies don't give a full picture of the risks nanoparticles may or may not pose. In the mouse study, carbon nanotubes were placed directly into the rodents' lungs. This is not a particularly realistic exposure scenario, some scientists say, because the very design of carbon nanotubes makes them clump together in groups too big to penetrate deep into the lungs.

The study of fish exposed to buckyballs was not peer-reviewed. And some scientists have concerns about the fish study.

Dr. Kristen Kulinowski, executive director for education and public policy at the Rice University Center for Biological and Environmental Nanotechnology (CBEN), points out that the study did not include an important control. The experiment should have exposed a control group of fish to buckyball clusters treated with a mild oxidizing agent (a chemical that attracts electrons). Research that CBEN has conducted showed that buckyballs treated with such agents cause no toxicity in cell culture studies. Perhaps, Kulinowski says, oxidizing agents can be used to turn off the toxic effects of "naked" or untreated buckyballs.

People often refer to buckyballs as if they were exactly the same molecule, but environmental journalists should beware. Buckyballs, along with other nanoparticles, are often coated or chemically altered to give them special characteristics or to make them benign.

Kulinowski recommends that reporters writing about a toxicity study involving nanoparticles ask whether they have been coated or "functionalized," meaning they are wrapped with polymers or other material. If so, reporters should ask about the purpose of that wrapping and whether any research has been done to show how the added material would affect the nanoparticle's behavior in people or the environment.

Even though nanotechnology is a new field, traditional concepts about risk apply. The first question: Does the substance pose a hazard? That's what the few studies published so far have addressed. Then, how might people, plants, or wildlife be exposed? (Water is fine to drink. Breathe it and you may die.) And finally, what is the extent of that exposure?

The nature of nanoparticles complicates the traditional ways of viewing risk. One point you are likely to hear repeated is that intentionally made nanoparticles may behave in unique ways that affect their toxicity, environmental fate, and ability to get into our bodies.

For example, most of the atoms in a nanoparticle are on its surface where they can easily react with other molecules. In general, the more surface area a molecule has the higher percentage of its atoms are available to react.

Sometimes this property may be useful. Researchers at several universities and the Department of Energy are creating nano-sized molecules of iron and other metals, such as platinum. They inject these tiny particles into water contaminated with TCE, a solvent found in groundwater at many Superfund sites, and find that the highly reactive nanoparticles transformed most of the TCE into harmless byproducts.

But concerns remain because few studies have been conducted on how nanoparticles will react in the environment or in people.

There is tremendous pressure to hype the benefits and hide the problems of nanotechnology. Congress gave federal agencies nearly $1 billion to spend in fiscal 2004 on nanotechnology, and President Bush has asked for nearly $1 billion in next year's federal budget. Industries and the government want the United States to be a global leader in this technology, which analysts have said could generate $1 trillion in products and 2 million jobs globally by 2015.

Nanotech resources:

- **http://www.nanodialogues.org.** This site uses clear, plain English to explain a lot of the concepts we'll need to understand.
- **http://press2.nci.nih.gov/sciencebehind/nanotech/nano01.htm.** This site has helpful pictures.
- **http://www.nano.gov.** As the official site of the National Nanotechnology Initiative, this site has links to myriad agencies and universities working with this emerging field.
- **http://www.ruf.rice.edu/~cben.** Although all of the federally funded research centers are supposed to consider environmental and health issues, Rice University is the only center specifically focused on these.
- **http://www.environmentalfutures.org/nanotech.htm.** A website developed by the Woodrow Wilson International Center for Scholars Foresight and Governance Project, which helps federal agencies think through emerging issues they will face.
- **http://nanotech-now.com.** Designed by industries promoting nanotechnology, the site offers useful background information including a glossary.
- **http://www.etcgroup.org.** Designed by a nonprofit organization concerned about risks this technology may pose.
- **http://www.sciam.com/nanotech.** A *Scientific American* website with links to lots of news articles.
- **http://www.eurekalert.org/context.php?context=nano.** Developed by the American Association for the Advancement of Science, this site has links to a (limited) glossary, meetings, news releases and more.

Pat Phibbs reports for the Bureau of National Affairs. *Scott Masten of the National Toxicology Program, and Kristen Kulinowski of the Rice University Center for Biological and Environmental Nanotechnology, reviewed this article for scientific accuracy.*

Stop the 'eco-speak' before your readers sleep

By REX SPRINGSTON

When I first started covering the environment, I felt like I was taking an immersion course in a foreign language.

I wanted to write about rivers, trees and pollution. But my sources talked about "resources," which were everything from rivers to dollars to people.

They talked about "biogenic sources," which any moron knows are trees.

They talked about "nonattainment areas," which, of course, are smoggy regions.

Surely you, too, were subjected to this language pollution. If we used these words, our stories would stink like biosolids.

"Eco-speak" is the snooze-inducing jargon that infests our beat like kudzu. An important part of our jobs is providing translations. We must be "jargon-nots."

I took a whack at eco-speak in a recent story. The peg: Virginia's environmental agency is trying to cut back on jargon. (Good luck.)

Seeking further examples, I made a query to the SEJ listserv. The topic struck a nerve. Members produced wonderfully horrid expressions that I had surely repressed, like "fugitive emissions" for leaks, and "regeneration harvest," which can be a clearcut.

Jargon, of course, is not unique to our beat. But the environment is the place where the jargon-heavy fields of law, science and government collide.

Jargon includes:

• Bureaucratic words that can easily be replaced with better words, such as "remediation" for cleanup.

• Euphemisms, such as "biosolids."

• Undefined expressions that mean different things to different people, such as "sustainability."

• Acronyms and abbreviations, such as "TMDLs" for river cleanup plans.

• Expressions that provide useful shorthand for experts but confuse the public, like "point sources" for factories.

In my story, I steered away from terms like President Bush's "Clear Skies" proposal. Is that jargon? It may be double-speak (if you disagree with Bush). I think there is a difference.

But Democrats and Republicans alike can agree that "direct deposition" is a dumb thing to call what cows do in streams.

Rex Springston is a reporter for the Richmond *(Va.)* Times-Dispatch. *For fun, he likes to drive his mobile source to the biogenic sources to observe the resources.*

DON'T SAY THIS AT HOME

Some terms to avoid in polite society and in talks with editors:

Area sources: Small pollution sources such as gas stations, dry cleaners and backyard barbecues.

Biogenic sources: Trees and plants. Some release chemicals that contribute to air pollution.

Biosolids: Treated human waste. Also called treated sludge.

Direct deposition: Polluting straight into a stream. Wading cows do this.

Fugitive emissions: Pollution that escapes through equipment leaks.

Harvest: The killing of animals by hunters, as in the annual deer harvest.

Mobile sources: Cars and trucks. They are "mobile sources" of air pollution.

Point-source pollution: Pollution from a specific place, such as a factory pipe.

MSW: Municipal solid waste, or garbage.

Natural attenuation: The process by which pollution subsides on its own.

Nonpoint pollution: Generalized runoff of dirty water from farms, parking lots and lawns.

Ozone nonattainment area: A smoggy region.

Particulates: Tiny particles, such as soot and dust, that contribute to air pollution.

Regeneration harvest: A type of logging, it can be another name for a clearcut.

Regional transport: The drifting of air pollution across state lines.

Remediate: To clean up.

Stationary sources: Factories and power plants – "stationary sources" of air pollution.

State implementation plan, or SIP: A federally required plan for reducing air pollution.

Take: To kill an animal that is protected under the federal Endangered Species Act.

Incidental take: The permissible, unintentional killing of an endangered animal.

TMDL: A plan for cleaning up a dirty stream. Stands for "total maximum daily load."

Wetland mitigation: Creating or restoring wetlands because you destroyed some.

JARGON FIGHTERS

www.plainlanguagenetwork.org

www.plainlanguage.gov

Plain Language International: Secretary Mike Durant is a former journalist: durant@water.ca.gov.

Check with Webster: Toxins are poisons made by organisms

By JANET RALOFF

We are supposed to be wordsmiths, those with a bigger vocabulary and better ability to wield words accurately than the majority of our readers/listeners.

Well, there's one word that all too many in our wing of the journalistic profession misuse regularly. I usually mention it on a case-by-case basis to individuals. Perhaps because I'm fighting one of my migraines today (meaning my patience is low), I've decided today to make a global pitch for asking our brethren to reserve this word for the isolated instances where it's truly the right word.

I'm talking about toxin.

What set me off today was the leadoff announcement on today's *EJToday* stories, titled: "Toxins Imperil Orlando Aquifer." I

(Continued on page 13)

Looking for truth in the new climate-change movie

Global climate change once again was attracting the attention of editors and news producers as a result of the Memorial Day release of the $125 million movie thriller "The Day After Tomorrow."

The movie's apocalyptic rendering of climate change may not have been a box-office smash. But it put the issue back on Page One, as many reporters sought some scientific lessons in the film.

Of course, it was a lot more fiction than science.

Even so, "The Day After Tomorrow" presents a new opportunity to explore such issues as the increase in severe storms, the return of the Ice Age or the potential of significant rise in sea level.

Instead of leaving you to the wiles of public relation professionals on both sides of the issue, the *SEJournal* has assembled some background, sources and a bit of a preview of how the issue may soon fare in Washington.

Good background:

When it comes to climate change, even a sudden shift is measured in decades, not days. Also, there is a "non-zero" probability of sudden collapse of the West Antarctic Ice Shelf (WAIS) – which could bring a sea-level rise of 5 or 6 meters. But again sudden doesn't mean next week.

Likewise, sudden change or failure in the North Atlantic thermohaline circulation, however likely or unlikely, could indeed cause a Big Freeze regionally. Environmentalists have been touting such scenarios for decades in hopes of getting media attention to serious climate issues.

The most credible background can be found in "Climate Change 2001," by the Intergovernmental Panel on Climate Change.

The IPCC concludes that "Current ice dynamic models project that the WAIS will contribute no more than 3 mm per year to sea-level rise over the next thousand years, even if significant changes were to occur in the ice shelves. However, we note that its dynamics are still inadequately understood to make firm projections, especially on the longer time-scales."

While noting the theoretical possibility of a shut-down of the Atlantic thermohaline circulation, the IPCC concludes: "The possibility for rapid and irreversible changes in the climate system exists, but there is a large degree of uncertainty about the mechanisms involved and hence also about the likelihood or time-scales of such transitions."

A broad-ranging, peer-reviewed, and consensus-based academic synthesis of how climate change is likely to affect the US is the "National Assessment," available online at www.usgcrp.gov/usgcrp/nacc/default.htm.

Other background sources:

• "Reporting on Climate Change: Understanding the Science" (3rd Ed.), which is online at: www.elistore.org/reports_detail.asp?ID=10915.

• "The Change in the Weather," by William K. Stevens (former *New York Times* science reporter), Delacorte, 1999.

• Of the hundreds of scientists you could interview, two of the best are Jerry D. Mahlman, National Center for Atmospheric Research, 303-497-1608; and Michael C. MacCracken (former Director of National Assessment), 301-564-4255.

• Duke University oceanographer Susan Lozier says the movie's take on ocean circulation is far fetched. For interviews, contact Tim Lucas, 919-613-8084.

SEJ members also recommended:

• The website of global warming author Ross Gelbspan: www.heatisonline.org.

• *E/The Environmental Magazine's* new book, "Feeling the Heat: Dispatches From the Frontlines of Climate Change" (Routledge, 2004), looks at current changes around the planet attributed to global warming.

Chapters cover the California coast, where sea level has risen between 3 and 8 inches; the low-lying islands of Antigua and Barbuda, members of the threatened Alliance of Small Island States, which has proposed a very modest 20-percent reduction in greenhouse gas emissions; New Jersey, where the largest and costliest "beach nourishment" project ever is under way; Alaska, deeply impacted by warming temperatures and melting ice; New York City; and the Pacific Northwest, whose mountains are losing their snow cover.

The book's contributors include many SEJ members and veteran environmental journalists, including Orna Izakson, Mark Hertsgaard, David Helvarg, Kieran Mulvaney and Sally Deneen. The introduction was written by Pulitzer Prize-winner Gelbspan, who recently released his own global warming book, "Boiling Point."

The preface to "Feeling the Heat" appears at www.emagazine.com/view/?1777.

Government sites

• U.S. Environmental Protection Agency: yosemite.epa.gov/oar/globalwarming.nsf/content/index.html.

• Intergovernmental Panel on Climate Change: www.ipcc.ch.

• National Oceanic and Atmospheric Administration: www.noaa.gov/climate.html.

• National Assessment of the Potential Consequences of Climate Variability and Change: www.usgcrp.gov/usgcrp/nacc.

Private/advocacy sites

• Pew Center on Global Climate Change: www.pewclimate.org.

• Sierra Club: www.sierraclub.org/globalwarming.

• The Natural Resources Defense Council has numerous global warming links on its website, www.nrdc.org/media/default.asp#0504warming. The group also has this global warming resource page: www.nrdc.org/globalWarming/default.asp.

Skeptics/critics

• Global Warming.org: www.globalwarming.org

• Competitive Enterprise Institute: www.cei.org

What's ahead in Washington

Senators John McCain and Joe Lieberman hope to get a second full-Senate vote on their bill to require U.S. companies to reduce their emissions of carbon dioxide and other pollutants linked to global warming. No one is predicting that the controversial measure, which is likely to be offered as an amendment to a must-pass bill, will make it out of the Senate this year. Last fall, the bill was defeated, 43-55. This year supporters expect to pick up more votes as states, shareholders' groups, environmental organizations, and foreign governments press for U.S. action.

(Continued next page)

That pressure will increase if Russian President Vladimir Putin ratifies the United Nation's Kyoto protocol to control greenhouse gases, which would cause the treaty to become legally binding. Russian newspapers have reported that Putin plans to sign the accord. President Bush withdrew the United States from the treaty process in 2001.

In Washington, proposals to tackle global warming face dim prospects. Even if McCain-Lieberman makes it through the Senate this year, the measure faces impossible odds in the House, where a companion bill, introduced in March, is certain to be blocked by the conservative Republican leadership.

In the Senate, the global warming issue has hurt President Bush's efforts to rewrite the Clean Air Act. Democrats and moderate Republicans on the Senate Environment and Public Works Committee insist that Bush's proposed "clear skies" bill must include controls on carbon dioxide. Committee chairman James Inhofe, R-Okla., who describes global warming as a "hoax," opposes any carbon controls. He predicted that conservatives "will have enough votes to pass the president's bill after the next election."

The White House steadfastly opposes global warming mandates. During his 2000 presidential campaign, Bush promised to control carbon dioxide emissions, but changed his mind when he got to the White House, arguing that controls would be too expensive. Instead, he favors long-term research and voluntary emission reduction programs.

With political gridlock reigning at the federal level, some states are filling the regulatory void. Nine northeastern states, including six with Republican governors, are developing a plan that will require local electric companies to lower their carbon dioxide emissions through a flexible cap-and-trade program. State officials hope to unveil the program in April 2005. Eleven states also were part of an October lawsuit seeking to force the Environmental Protection Agency to regulate greenhouse gas pollutants. That case is also backed by two major cities, 14 environmental groups, Washington, D.C., and American Samoa.

In 2001, leaders from six New England states and five eastern Canada provinces signed an agreement to cut regional global warming gas emissions to 1990 levels by 2010. And in September, California, Oregon and Washington followed suit with a separate regional plan to cut carbon dioxide emissions. Neither agreement has legal teeth, but individually the states are adopting a variety of ambitious programs to reduce their carbon dioxide emissions and cut their energy use.

The coastal states are leading the charge against global warming in part because they fear the potential impacts on their coastal regions, forests, and wildlife. "If you degrade our natural resources, you affect the economy of our state," noted New York environmental commissioner Erin Crotty.

Few coal-producing states, however, favor aggressive global warming mandates, noted Dale Heydlauff of Ohio-based American Electric Power, the nation's largest utility. AEP serves 11 Midwestern states and is the nation's largest producer of carbon dioxide emissions. "None of the states that we serve have had any serious debates about controlling greenhouse gas emissions," he said.

But those pushing for a federal global warming program predict that as a patchwork of state programs emerges, companies will turn to the federal government to adopt a uniform set of environmental rules. "The more that goes on in the states, the more likely it is that there will be a national program," said Eileen Claussen, president of the Pew Center on Global Climate Change.

Corporate America is also feeling pressure from institutional investor groups. On April 15, thirteen major public pension funds asked the Securities and Exchange Commission to require companies to disclose the financial risks they face from climate change. The investors, who manage $800 billion in assets, argued that global warming risks should be routinely analyzed in corporate financial disclosure statements. Meanwhile, institutional shareholder groups have filed 29 proposals this year asking individual companies to outline their response to global warming. Six proposals were filed with electric utility companies and 10 with oil and gas companies.

Despite pressure for federal action on global warming, the issue isn't a hot topic with most Americans. According to a recent Gallup Poll, 42 percent of those polled said the United States should abide by the carbon dioxide controls proposed in the Kyoto agreement. But at the same time, 22 percent said the nation should not adopt those controls and 36 percent of the public had no opinion.

Contributors to this report included SEJ members Margie Kriz, Joe Davis and Paul Brinkmann.

Toxin... (from page 11)

read the story and the problem is, it's not about toxins. The author refers to a finding of gunk containing "nerve toxins such as lead..." – except that lead is not a toxin.

Toxins are poisons made by biological organisms – as in bee venom, snake venom, the damoic acid produced by some harmful algal blooms or the blistering agents released by some insects. It is NEVER a synthetic chemical, such as a pesticide, combustion byproduct or flame retardant. It is NEVER a natural inorganic chemical or element, such as lead, arsenic or asbestos.

I'm not making this up – nor is this just a "science" journalism thing. Consult any Webster's dictionary. Toxin is NOT synonymous with poison, although it is sloppily misused as such. There is a reason why EPA refers to pesticides with the inelegant term "toxics" – it's in recognition that they are not toxins but are toxic. It's their shorthand for the more accurate but boring mouthful: toxic substances. If you want an alternative to toxics, and I would hope you do, consider using poisons.

Just don't misappropriate toxins, please.

And now I'll stand down from my soap box for the day – and take another dose of Imitrex.

Janet Raloff, senior editor at Science News, *originally posted this to the SEJ listserve, prompting SEJ members around the nation to bang foreheads and head for that Webster's.*

Neighborhood... (from page 1)

air raises unhealthy odds," there was a story on how that air impacts residents headlined "Respiratory illnesses are a grim fact of life."

Potential solutions were also covered with this story:

Photo courtesy of THE INDIANAPOLIS STAR

Exhaust billows out of Covanta Energy in Indianapolis.

"Planners have outlined steps to protect residents." That story told about how planners first expected the residences to disappear and be replaced with light industrial uses. A potential solution was investigated, looking at what was happening in Louisville, Ky.

Day Two's story documented the years that residents sought help to clean their air and how officials never took action. A companion story looked at a similar air pollution problem on the east side of Indianapolis where residents were prodding officials to take some action.

Webber said the story really started with Nichols working with databases.

When he mapped lung cancer, "there was a little spot on the west side. It was really concentrated. The question was 'Why there?' Common sense said it was a story," she said.

Nichols also had done some preliminary work with the U.S. Environmental Protection Agency's National Air Toxics Assessment database, which had cancer risk information for 30 hazardous pollutants. "When he mapped the risk of Marion County, it almost perfectly overlaid the area" with the high lung cancer rates, Webber said.

Meanwhile, she had been looking at the area, thinking in terms of a story regarding environmental justice.

"I was pitching a proposal to do what Mark was doing. I didn't know what he was doing," Webber said. After doing some preliminary reporting, she found "Basically there had been officials frustrated in addressing these issues."

While she was doing that preliminary reporting, Nichols worked on more sophisticated analyses of the data.

EPA had done a special report on Indianapolis released two years earlier – but it had sparked little action. Webber, who had been with *The Associated Press* in Chicago when that report was originally released, had forgotten about it until she came back across it during her investigation.

While the databases created the skeleton for the two-day series, there was still a lot of footwork to do. Webber went through the file rooms of state and county agencies looking for records of emissions as well as past complaints.

"There were lots of letters – 'we can't breathe,' 'we are afraid to grow gardens,'" she said. The letter writers provided some of the initial neighborhood sources. "We did a lot of walking in the neighborhoods," she said. "People just kept giving us more people," she said.

Nichols said the databases he used included the EPA Toxic Release Inventory "to get a sense of what the industries were emitting," the National Air Toxics Assessment database for the potential risks, census data to get demographic information, a database on smokers in Indianapolis and health data. Census block information was often the common key link between the sets of data, he said.

Nichols said the series had the longest "nerd box," explaining the newspaper's use of data, that he has ever seen. That information is available at: www.indystar.com/articles/9/122987-3129-172.html

Webber said the analysis done by Nichols helped give the story more authority to link the air problems with the health problems.

"*The Star* used a statistical concept called multiple regression to explore whether the pattern of elevated lung cancer death rates in high-risk tracts was significant or due to chance," the "nerd box" said.

Regression analysis summarizes the relationship between two or more groups of data – in this case, death rates, industrial pollution and other demographic factors that describe residents in each tract, it said.

"It determines the strength of that relationship by predicting how much of the difference in death rates from tract to tract can be explained by differences in cancer risk from industrial pollution and the other factors," Nichols wrote.

The regression analysis showed that a pattern existed between the risk data and lung cancer death data within each

(Continued next page)

tract. As the risk from industrial pollution increased, the death rates also tended to increase, he said.

Using the regression analysis, *The Star* could say: "About 22 percent of the difference in death rates from tract to tract could be explained by risk from industrial pollution and the other characteristics."

Theobald's part of the series was to look at solutions.

"In most all of the projects I have done, I have looked for examples that show how similar communities have approached similar issues. It provides readers with more perspective on two fronts: that the problem being written about is not unique to our community, and that people in another community are approaching it in a different way.

"I've always felt like part of the responsibility of doing project/investigative reporting is to point to places where solutions have been found. First, I think it is part of telling the whole story. And second, I take it as a moral responsibility for the newspaper," Theobald said.

So, why did he pick Louisville?

"We spent a lot of time looking around the country for a place with a similar situation. So, initially we cast a very wide net because there is never an exact match to the situation in your own community. We settled on Louisville because it is a city of similar size, with a similar concentration of industry near homes. And, it was a community that had moved much further along in efforts to do monitoring, analyze the result and take action as a result," he said.

"I spent a lot of time reading the clips from the Louisville *Courier-Journal*. Their environmental reporter, James Bruggers, has done a tremendous job of tracking the story of Rubbertown for years. Then I went to the major players at the metropolitan pollution organization, the community group that was formed and the activists led by the minister," Theobald said.

However, he didn't take at trip to Louisville.

"I wish I had done that, but we did not have the time, unfortunately. I think it probably took me about two weeks all told to do that sidebar."

While the reporters talked to a lot of individuals, Theobald said "I think the most interesting person was the one I never met: Marion Altmeyer. She was the neighborhood resident who first raised concerns about pollution in the neighborhood going back to the 70s. We first came upon her by accident while looking through the state files regarding Reilly Tar and Chemical.

"Here were all these incredible letters from one person, pleading with officials to do something. It turned out I knew one of her daughters. The other daughter had kept all of her mother's papers and simply gave them to us. So we were able to recreate her life during that period. Plus, I interviewed a bunch of people who worked with her or knew her doing that period. She was way before her time as an environmentalist (although she probably would have riled at the title) and as a citizen activist," Theobald said.

"One of her daughters went on to head what is the biggest food bank in the state, providing tons of food every year to shelters and food distribution programs," he said.

Webber said that in the short time after the series ran, "There has been a lot of talking, heated discussion… One of the findings was there was no monitor in one of the most heavily polluted areas in the county." So now officials are applying for grants trying to get one, she said.

Webber said other reporters looking to do a similar project should look at the data available and then "learn as much as you can about the affected community… Find out what the sources of emissions are. Talk to as many people as you can. We spent hours and hours and have thousands of pages of documentation" of historical data.

Photo courtesy of THE INDIANAPOLIS STAR

Third-grader Shelby Warfield, 10, breathes through her nebulizer during her daily visit to the nurse's office to help control her asthma.

To see the project, go to: www.indystar.com/special/risk.

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Water... (from page 1)

These are some of the first words of the Clean Water Act, the 1972 law enacted following a crescendo of water-pollution revelations. It's become practically a cliché to cite it now, but the most famous of these incidents was the "Burning River" – the Cuyahoga in Cleveland, which flared up for 20 minutes in 1969 because the concentration of pollutants floating on its surface was so high.

You won't find a Burning River in Cleveland anymore, unless you count the better-than-passable pale ale by the Great Lakes Brewing Co. served at some of the clubs that have sprung up along the banks of the river.

The progress in Cleveland is symbolic of that nationwide.

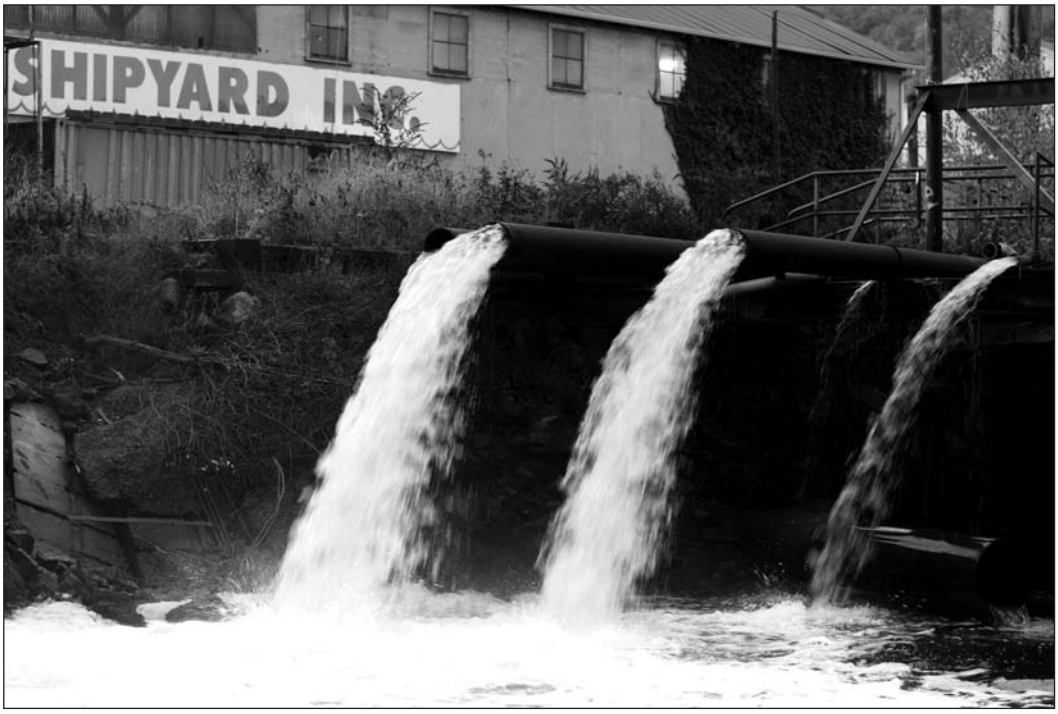

Photo courtesy of SEATTLE POST-INTELLIGENCER/Paul Joseph Brown

Clean water returns to the river from Duwamish Shipyard, which reached a deal in 1995 with Puget Soundkeeper Alliance to clean up its discharges.

The worst water pollution excesses are largely a thing of the past. Over three decades, the overall quality of the nation's waterways has improved remarkably.

But those original goals of the Clean Water Act still are unfulfilled. That's often forgotten by people at government agencies who enforce the law, even though more than one-third of the nation's waterways still are considered too dirty for swimming, fishing, or both.

Reading those early goals of the Clean Water Act gives you a good feel for what the public expected at that time, and that I'd argue the public continues to expect today.

How hard is government working to get the job done? Not hard enough, according to reports by the General Accounting Office and the office of the EPA inspector general. The history of the law is one of a clear pattern of government dragging its feet, often moving ahead only when pressed by environmentalists' lawsuits.

The law is wide-ranging, governing even the construction in wetlands, for example. But we'll concentrate here on the basics of water pollution. The law required that most facilities dumping waste into the nation's waters obtain a permit from the government under what's known as the National Pollutant Discharge Elimination System, or NPDES.

These NPDES permits are the cornerstone documents in this program to supposedly eliminate water pollution. Permits typically are issued for five years. Then, theoretically at least, when a new permit is issued by the U.S. Environmental Protection Agency or state regulators, the amount of pollution allowed is reduced.

The idea was that, as pollution-control technology improved, permits would come up for renewal and the pollution load would be gradually "ratcheted down."

Lots can go wrong along the way, though. In the following sections we offer some ways to do water-pollution stories at the local, state and national levels. But bear in mind that those are just different prisms to look at the same failing effort to achieve the original goals of the Clean Water Act; you can do a story suggested at the local level for the entire state, but it will take longer.

The local perspective

At the local level, you may want to investigate a particular facility or a certain waterway or watershed. Or, as we did at the *Seattle Post-Intelligencer* in a broad-ranging 2002 project on the health of Puget Sound, perhaps you'd like to find out who is polluting the water in watersheds across your region.

If you want to check out a sewage treatment plant, factory or other facility, you can use an EPA database that lists the location, SIC code, past and current permits, and other information. Start at www.epa.gov/enviro/html/pcs/pcs_query.html.

The EPA database gives a sense of the range of polluters in your area and what kinds of pollutants are being watched.

What you'll probably want to do next is go directly to the state environmental agency designated to enforce the Clean Water Act in your state. Those records are likely to be more detailed and up to date than those on EPA's database. Many of the larger polluters must file discharge monitoring reports every month.

In a detailed investigation of a single facility, you'll want to start by reading the current permit and past ones. Have discharge limits been reduced as new permits have been issued? How often is the polluted discharge tested? How about the surrounding waters? What is being monitored in water tests? How were those pollutants (also known as "parameters" or "parameters of concern") selected in the first place?

"I had a reporter ask me recently whether if he went and looked at a bunch of permits, he could show they're being violat-

(Continued next page)

ed," said Nina Bell of Northwest Environmental Advocates, a clean-water watchdog group. "I said you may, but you're more likely to find a bunch of permits that weren't written that well to begin with, and doing a story on that is a lot harder."

However, if you're concentrating on one facility or a handful of them, this is an entirely doable exercise.

Look carefully at the dates the permits have been issued. It may seem a small bureaucratic matter that a sewage treatment plant is operating on an administrative extension of a permit that expired four years ago. But remember: The reason the permits are supposed to be renewed every five years is so that the pollution limits can be ratcheted down. Every year the permit is not renewed, the typical facility keeps dumping at levels higher than envisioned by the Act's authors.

Look also at the number of times the permit was violated. And see what the permit allows to be dumped. Also examine the discharge monitoring reports, or DMRs, which are usually done every month or quarterly. In many cases you can deduce that a facility dumped, say, hundreds of pounds of toxic metals in a month.

To check out how a particular river, bay or lake is doing, you can look at compliance of all the permit holders authorized to dump waste into that water body. At the *Post-Intelligencer*, we obtained computerized records for all the permitted facilities in the Puget Sound region, and plotted them on a map and color-coded them. Readers were blown away by the sheer number of facilities allowed to dump wastes.

One note of caution: You'll want to double-check government database records by going to the individual facilities' paper records on file with your state environmental agency. And talk to the polluter, too. We found numerous inconsistencies that, in sum, showed that the Washington Department of Ecology was not carefully monitoring some polluters.

If you're interested in a particular stream, lake or bay, a key question is whether it is the subject of a cleanup plan known by the ugly name of Total Maximum Daily Load, or TMDL. To find this out, try www.epa.gov/OWOW/tmdl/index.html. But again, many of these are out of date. You can get the most current information from the state agency.

If a TMDL has been done, the plan should quantify the amount of pollution being dumped, identify those doing the dumping, and say how much those sources of pollution – and, importantly, others – are to be controlled. You should closely question the agency's assumptions that go into allocating pollution loads among different sectors. Can the reductions envisioned in the plan realistically be carried out?

If the water body doesn't support fishing and swimming as envisioned in the Clean Water Act, and a TMDL has not been done, start asking why. Many of these waterways have sat on the "impaired" list for years with little or no progress on a cleanup plan.

Don't just talk to the state regulatory agency. Also check with the EPA officials who are responsible for monitoring your

(Continued on next page)

Stay tuned to key federal actions coming on oceans

By ROBERT McCLURE

Hey, you out in Iowa! You over there in Missouri! You up there in Illinois! Don't think you can blithely scan this because it's a story about oceans. Turns out your readers, viewers and listeners are also helping pollute and degrade America's seas.

That's one of the messages that emerged as two national commissions have completed major studies of ocean health. The most recent, scheduled to be issued in final form late this summer, is expected to pose a challenge to President Bush not long before the election: Appoint a key adviser on oceans and convene a White House council to shape federal action.

Will Bush run with this opportunity to burnish his environmental credentials? Will Congress take up the cause next year?

The new push for ocean health is the first in a generation for this country. The last such effort, by the Stratton Commission in 1969, spawned creation of the National Oceanic and Atmospheric Administration and the National Marine Fisheries Service. It also led to the system of federal fisheries management councils that allocate fish catches. Because of widespread overfishing, those councils have come under fire in the re-thinking of ocean policy for being dominated by the fishing industry and its friends.

The current attention to ocean health has its roots in a private commission funded by the Pew Charitable Trusts, a green-leaning philanthropy, and headed by Leon Panetta, the longtime California congressman, former Clinton White House chief of staff and fisherman's son.

The Pew Oceans Commission report, issued a year ago, called for strong medicine. Its recommendations included legislation on the scale of the Clean Water Act to rescue oceans, a restructuring of fisheries councils to reduce industry influence, and creation of a single national agency to direct ocean policy. Though headed by a Democratic politician, the panel included scientists, environmentalists, fishermen and Republican New York Gov. George Pataki.

The other panel, the U.S. Commission on Ocean Policy, issued its long-delayed report in April 2004. Its recommendations were more tepid, and focused on a "bottom-up" approach. But its explanation of the oceans' problems – including overfishing, coastal overdevelopment, pollution and lack of ocean research – virtually mirrored the Pew Commission's. The U.S. commission was headed by retired Navy admiral James D. Watkins. It included scientists, government types and business people.

Both reports highlighted the massive problem of stormwater, the foul concoction that runs off farms and the streets of cities and suburbs after rainstorms. City dwellers and farmers in the Midwest are sending their pollution downstream, via the Mississippi, and it's causing a dead zone in the Gulf of Mexico the size of New Jersey, the commissions said. To emphasize this point, the Pew Commission held a meeting in Des Moines and the U.S. commission met in Chicago.

It's happening virtually everywhere. Controlling it could be an expensive proposition. Is your town or state doing what it can to control that stuff?

Water... (from page 17)

state's Clean Water Act performance, the polluters themselves, and environmentalists who are knowledgeable about the situation. Usually, regional EPA offices conduct audits of state programs that will reveal enforcement and other problems. Those audits are often conducted yearly.

Don't forget to check in with neighbors and area workers, who may be angry about the pollution – or may know nothing about it.

Finally, don't forget that lack of action in general on TMDLs by your state is in itself a story.

At the state level

For analyzing the water-pollution situation at the state level, two documents are indispensable. One is a list of "impaired water bodies" – those that don't meet Clean Water Act goals – known as the 303(d) list. These are the ones that the state is supposed to get cleaned up by TMDLs.

Sometimes, though, a lesser-known document, the 305(b) list, can be even more instructive. Every state's is different, but it should have all the water bodies considered for inclusion in the 303(d) list.

It should also say why some were dropped out, and that's a key thing to hammer on. States increasingly are eliminating water bodies from cleanup lists, often citing the lack of recent water testing – while the Legislature simultaneously slashes funds required to do the monitoring that would force a cleanup plan to be produced.

Also take a look at the 305(b) list to find out what percentage of your state's water bodies are even monitored for water quality. That can be an easy and eye-opening story in itself.

Carefully question how the state makes decisions to leave water bodies off the 303(d) list. Remember that the more water bodies land on the list, the more work the agency has to do – at a time of declining government budgets. Yet citizens want the work done.

Both lists are required to be produced every two years. In recent years the 305(b) lists and accompanying documents have started to look pretty sketchy in some states. It's worth your while to ask for copies of the last three or four or five, and compare the recent product with past ones.

Arguably the biggest reason the Clean Water Act has fallen short of its goals is stormwater, that nasty concoction of oil and dog poop and transmission fluid and toxic metals and so many other nasties. It gets washed into waterways by any good-sized storm.

The Clean Water Act's NPDES permit system requires regulation of facilities that are "point sources" of pollution – generally meaning they dump the stuff through a pipe or pipes, a "point." But the law also requires the states to take steps that many have not to rein in "non-point" pollution sources, including stormwater. (There is an exception for agricultural stormwater. However, EPA is working to control wastes from "concentrated animal feeding operations," or CAFOs. See cfpub.epa.gov/npdes/afo/cafofinalrule.cfm).

The way the Clean Water Act was supposed to work was that once all the point-source polluters on a water body had been given NPDES permits, and the water body was found to still be in violation of water quality standards, a TMDL would be produced. In short, a TMDL is a cleanup plan that's supposed to get a handle on stormwater pollution as well as the toxic stuff dumped directly through waste pipes.

But even the EPA admits this stormwater-cleanup requirement was largely overlooked in the 1970s and '80s, and critics say the situation has improved marginally since. By now states are supposed to have implemented "Phase 1" stormwater regulations governing the larger towns and construction sites of more than five acres.

But most have fallen far behind, and are now falling even farther behind as deadlines pass for Phase 2, which requires them to regulate medium-sized towns and construction sites down to one acre. In Washington, state records showed that no more than one-quarter of the regulated businesses had taken any steps to control stormwater, and one veteran state inspector pegged the number at less than 10 percent. For the EPA rule, see www.epa.gov/npdes/regulations/phase2.pdf.

A related topic that is a major source of water pollution is a combination of stormwater and raw sewage. In some cities, stormwater is usually processed through sewage treatment plants, which is a good thing because it helps control stormwater pollution.

However, when it rains too heavily, these "combined sewer" systems can overflow, spilling a mix of raw sewage and stormwater into nearby water bodies. In Seattle, scientists discovered that male

(Continued next page)

WatchDog... (from page 5)

do best – reporting the truth and writing about it. In the end, that may be the most crucial response to the post-9/11 information blackouts. The WatchDog Project is trying to give reporters the tools and encouragement they need to report and write more – about dam safety and pipeline routing, about chemical plant emergency preparedness and security, about the health and safety impacts of power plants and the electric grid, and a lot of other things.

A good example is the government's recent push to build more liquefied natural gas (LNG) terminals – a move which might seem to reduce pollution and increase energy supply. But such facilities, if built onshore in populated areas, could also become weapons of mass destruction if looked at through the gun-sights of a terrorist. The *WatchDog* has covered the speed and secrecy with which such LNG facilities are being approved. More importantly, we are beginning to canvas the journalists covering them to find out what problems they have had getting blacked-out information on LNG terminals' environmental and safety impacts.

Stay tuned to the *WatchDog* for further developments – or point your browser at the WatchBlog (radio.weblogs.com/0131722/) for news as it happens.

Joseph A. Davis edits the SEJ TipSheet *and* WatchDog *newsletters, both online at www.sej.org, and serves as project director of SEJ's First Amendment WatchDog Project. He has written about the environment for 28 years and covered environment, resources, and energy for* CQ Weekly Report. *His syndicated work has appeared in over 110 newspapers nationwide. He is a freelance journalist working in the Washington, D.C., area.*

fish in the vicinity of these discharges carried a female reproductive protein, raising questions about these discharges' effects on wildlife.

Finally, another fun exercise at the state level is to get the NPDES compliance database and sort it to rank facilities by the number of permit violations. Then, get the agency's database of fines imposed and collected. Compare the two lists to see which of the flagrant violators are not facing the regulatory wrath of the state.

(A caution here: Check the violations carefully. You may want to separate them into monitoring/paperwork violations and violations of discharge limits. Don't ignore those that involve monitoring and paperwork, however; facilities that know they are violating discharge limits have been known to simply stop filing reports until they get the cash together to fix the problem.)

A national issue

The numerous problems at the local and state levels add up to a national problem – a disgrace, critics say.

Doing this story at the national level simply involves looking at the same issues discussed above through a different prism. Fortunately, the failures have been repeatedly documented in government reports that frankly haven't gotten enough attention from the news media.

For example, when the General Accounting Office checked in 2000, only six states even had the majority of data needed to fully assess the quality of their waterways. (See www.gao.gov/new.items/rc00054.pdf)

A good background document that identifies EPA's shortcomings in developing criteria for sedimentation and nutrient pollution is a 2003 report at www.gao.gov/atext/d03308.txt.

EPA's inspector general has highlighted crucial failings in the Permit Compliance System used to track whether NPDES permit holders are doing what they should to control pollution. See www.epa.gov/oig/reports/2003/20030520_2003-M-00014.pdf. The Inspector General also has looked at how states are falling down on the job, see www.epa.gov/oig/reports/2001/finalenfor.pdf.

A 2001 National Academy of Sciences report (www.nap.edu/books/0309075793/html) recommended procedural changes for administration of the Clean Water Act, but concluded that regulators should not allow themselves to be paralyzed by uncertainties and lack of scientific information.

The big picture here is that not nearly enough testing is being done to verify whether waterways are polluted, and there is no resolution in sight. Even if the monitoring were done, the cleanup tab would be huge – $900 million to more than $4 billion, according to one EPA estimate (www.epa.gov/owow/tmdl/draftdocs.html.) More information on the Clean Water Act is available at www.epa.gov/r5water/cwa.htm#History.

THE SAFE DRINKING WATER ACT

For a classic rendition of how to raise important questions about the current implementation of this law, see the excellent work done earlier this year by *The Washington Post.*

The Post showed how the District of Columbia flubbed notification of the public about the propensity to find lead in D.C. drinking water. (See www.washingtonpost.com/wp-dyn/metro/specials/water and page 27 in this issue).

Basically, D.C. water officials did what many of their colleagues across the country have done: As little as legally possible – less than legally permissible, in some cases – to notify citizens of shortcomings in their drinking water.

To explore this in your area, a good starting point is a 2003 report by the Natural Resources Defense Council, "What's On Tap?: Grading Drinking Water in U.S. Cities" (www.nrdc.org/water/drinking/uscities/execsum.asp.)

Photo courtesy of SEATTLE POST-INTELLIGENCER/Paul Joseph Brown

Stormwater enters Puget Sound through storm drains and carries with it toxic organics, heavy metals, bacteria, viruses, nutrients, oil and grease, pesticides and sewage.

The report gives a grade for drinking-water programs in 19 large and medium-sized U.S. cities. It traces problems including contaminants such as lead, pathogens, toxic chemicals and carcinogenic byproducts of the chlorination process.

The group also looked at how well drinking-water sources are protected – information that's increasingly hard to get since the government's post-Sept. 11 information-withholding binge started.

And – this is a little-explored area that *The Post* examined carefully – NRDC uncovered evidence of misrepresentations in the "right-to-know" documents that drinking-water utilities must provide to their customers. While NRDC found that most cities have good or mediocre drinking-water quality, it found pervasive problems in these disclosures.

Even if your city isn't one of those studied by NRDC, it's instructive to read this report and get an idea what kinds of questions you can ask about the systems in your coverage area.

In the early 1990s, the common wisdom was that large drinking-water systems were pretty safe, and problems were concentrated in the small systems without enough ratepayers to finance improvements. The NRDC report and *The Post's* revelations dispel that notion, as did Milwaukee's experience with cryptosporidium in drinking water, which killed about 70 citizens and sickened hundreds of thousands. And in April, a grand jury in Pensacola

(Continued next page)

Water... (from page 19)

excoriated local, state and federal officials for failing to act when more than half the public water-supply wells were contaminated by dry cleaning chemicals, pesticides or petroleum products.

In rural America, the regulations are more lax and less quickly implemented. Check if your state has cracked down on the levels of trihalomethanes (byproducts of disinfecting water with chlorine).

Also, in a strange regulatory loophole, some rural towns have turned up with high levels of vinyl chloride, a carcinogen, in their water. Some old PVC pipe apparently leached the contaminant into drinking water because water sat in long stretches of pipe. But, technically, the high levels didn't constitute a violation of federal law, EPA officials concluded, because compliance was tested at the water plant, not at the tap.

As with Clean Water Act pollution, one of the major stumbling blocks for drinking-water quality is cost. With water systems aging across the country, utility managers are slavishly seeking to keep rates low. Yet the nation faces a maintenance and construction backlog of up to $500 billion, according to the Association of Municipal Sewerage Agencies. The Congressional Budget Office pegged the number at $240 billion to $410 billion. (see www.cbo.gov/showdoc.cfm?index=3472&sequence=0&from=1)

Now is a good time to take on this topic, because Congress has started asking some pointed questions about drinking-water quality. That helped spawn two worthwhile recent reports by the EPA Inspector General: "Impact of EPA and State Drinking Water Capacity Development Efforts Uncertain" in September 2003 (www.epa.gov/oig/reports/2003/2003-p-00018-20030930.pdf) and "EPA Claims to Meet Drinking Water Goals Despite Persistent Data Quality Shortcomings" (www.epa.gov/oig/reports/2004/20040305-2004-P-0008.pdf).

Even EPA admits there is work to be done. In Congressional testimony, Acting Assistant EPA Administrator Benjamin Grumbles defended the agency's performance but had to admit in reacting to *The Post*'s revelations:

"This event is a reminder of what we take for granted: that we can turn on our faucets, whenever we want, to draw a glass of clean, safe water."

Robert McClure edits SEJournal*'s Reporter's Toolbox and covers environmental issues for the* Seattle Post-Intelligencer**.**

Inside awards... (from page 2)

more environmental journalism is being produced in print than broadcast media.

Said Tim, "We want to highlight the best work of every medium, if possible, and certainly television has tremendous impact, arguably more than print, so I think it's important that we continue to highlight the broadcast entries. The question is can we give more of a break to the print folks?"

To complicate matters, Tim points out that some SEJ members work in media that right now are completely shut out of our contest: Book authors and photographers, for example. So if categories are added to the contest, he said, authors, photographers and possibly editorialists and essayists could make a credible argument that they ought to be the beneficiaries.

Though I'm sure they'd like to, Tim and Vince and the rest of the awards committee can't simply make everyone happy by adding large numbers of categories. There are at least three reasons why they can't. First, we want every category to attract enough entrants to be competitive, so we can be sure that all the winners are truly excellent. Second, we need to keep the program small enough to ensure high-quality judging and contest administration. And finally, the committee needs to stay within the contest budget established by the SEJ Board.

As with all of our other programs, SEJ doesn't look to the awards program to generate extra income for our organization, and as always the board is committed to keeping entry fees low to encourage participation. The SEJ Board is actively looking for an appropriate partner – probably a university – to help us underwrite awards expenses, and if we find the right partner the awards committee may end up with more freedom to expand. But for now, staying within a relatively modest budget – this year, $20,000 in direct expenses and about $25,000 in staff costs – is the only way to ensure that the contest doesn't divert resources from core SEJ programs such as the conference and the web site. It's the best way to guarantee that the contest tail never wags the SEJ dog.

The awards committee has other issues to consider, too. Some committee members think the ban on contest entries from SEJ Board members, newly instituted for this year's contest, should be rescinded. Because the board has no role in selecting the judges, they argue, there's no conflict of interest. Other committee members think the ban should stay to avoid the appearance of a conflict. In addition, there are a host of mundane but oft-disputed questions to settle for next year, such as the maximum acceptable size of submitted tearsheets.

"The society's reputation is on the line with what we announce and highlight as outstanding journalism," Tim says. "After having wrestled with everything from should board members be able to enter to what format should articles be presented in, it seemed to me it was time to do a pretty thorough top-to-bottom review of everything from the categories to the details, so that's what we're going to do."

Tim and Vince and the rest of the committee are planning to do their assessment this summer. You can help by sharing your suggestions for how our contest can be improved. E-mail your ideas by July 1 to Tim at twheeler@sej.org and Vince at vpatton@dsl-only.net

Anything is fair game, as long as you don't suggest doubling dues or banning coffee.

Dan Fagin of Newsday *is the president of SEJ and enters lots of contests.*

Wise use, ecosystem management and epidemic history

Return of the wise guys

THE WAR AGAINST THE GREENS: THE "WISE USE" MOVEMENT, THE NEW RIGHT, AND THE BROWNING OF AMERICA
By David Helvarg
Johnson Books, 2004

By MINDY PENNYBACKER

Oh, what a difference a decade makes, as David Helvarg reminds us in his revised, updated edition of "The War Against the Greens," first published in 1994. During the Clinton years, who would have foreseen that the U.S. would reject the Kyoto Accord and steadily erode restrictions on power plant emissions and a ban on logging in undeveloped national forests?

Helvarg, for one.

"Ten years after my book first came out, I've seen some of the changes I predicted come true, including the emergence of a larger anti-green backlash linked to the fossil fuel industry, a backlash that has now been able to place one of its own in the Oval Office," he writes in the book's new preface. In 1994, just before the Republican Party regained control of the House of Representatives, Helvarg notes, the conventional wisdom being disseminated by rightwing think tanks and repeated in the mainstream press was "that environmental regulation was now hurting the American economy." What's new, he argues in a powerful new chapter about the first four years of the Bush Administration, is a flagrant industrial takeover of energy, agriculture and natural resource policy, while Americans are distracted by worries about terrorism and their job and healthcare woes.

Helvarg describes how polluters and politicians have learned to speak softly, placating voters with green homilies as they go after the environment with a big stick. Their weapon of choice in their public relations war against the greens is green-washing.

The book traces anti-green backlash to the 1980s, when right-wing, property-rights activists launched what was billed as a grassroots movement called "Wise Use," a term that referred to using natural resources rather than leaving them pristine. The basic argument was that private interests could manage the environment better than government. While they bashed environmentalists, Wise Users took care to characterize themselves as responsible caretakers of the natural world.

"At a certain level, Wise Use's major contribution to politics has been its self-conscious distortion of language, the adaptation of Green-sounding names as industry camouflage: the National Wetlands Coalition, the Environmental Conservation Organization, Concerned Alaskans for Resources and Environment, and the Greening Earth Society. Today anti-environmental legislation goes by names like 'Healthy Forests' and 'Clear Skies'..." Helvarg writes.

Constituents of the new movement in general were loggers, miners, ranchers, corporate farmers, real estate developers and landowners in or near national forests who viewed governmental regulation, such as the Endangered Species Act, as an encroachment. When workers said that conservation threatened jobs, they had a point, Helvarg says, given the "disinterest conservation organizations have historically shown to the social consequences of wilderness protection." But as he also describes, the Wise Use movement from its inception was orchestrated and funded by industry. He posits that social consequences have not been a high priority with today's industry-friendly government, which, in the face of high unemployment and soaring federal deficits, remains committed to "massive tax cuts that mainly favor the affluent."

Helvarg makes his readers care about human as well as environmental costs with his firsthand, in-depth portraits of people in impacted communities from forests of Oregon, New Hampshire and Alabama to the mountains and deserts of Colorado and Nevada. While Wise Use activists have been quick to label all environmentalists as eco-terrorists, they have often intimidated and engaged in violence against their opponents. Helvarg reports incidents of assault, rape, bombings, arson and possible murder, including the death of nuclear whistleblower Karen Silkwood.

The first, smaller backlash of the Reagan 1980s came in reaction to the passage of national environmental laws and the Carter Administration's energy-conservation policies. The backlash escalated into war in the spotted owls vs. jobs debate in the Clinton years. In the new millennium, the battle over western water in a chronic drought is pitting farmers against fish and the Native Americans whose culture and livelihood are at stake.

Today, Helvarg says, Wise Use has faded as industry has moved boldly into the fore, no longer needing its former front men given the close ties between members of the Bush Administration and the industries they are supposed to regulate. Here's a few examples: Bush, his dad, his vice president, his secretary of commerce, and his national security advisor – each with ties to the petroleum industry; one-time lead industry lawyer Interior Secretary Gale Norton, "a Wise-Use veteran" who supports opening the Arctic Refuge to drilling; Norton's deputy secretary is Steven Griles, a former coal, oil and gas lobbyist, who is being investigated for conflict of interest; at the USDA, Secretary Ann Veneman was formerly a lawyer for Wise Use groups; Veneman's chief of staff, Dale Moore, once worked as chief lobbyist for the Cattlemen's Beef Association; Mark Rey, her undersecretary for natural resources and environment, is an ex-vice president of the Forest and Paper Association and a proponent of clear-cutting.

While talking green, this "brown" team is quietly reversing environmental and health protections such as the New Source Review requirement that power plants install anti-pollution devices when they expand, Helvarg writes. Their tactics were summed up in a leaked 2002 memo to Republican party leaders: "Do not attack the principles behind existing legislation. Focus instead on the way it is enforced or carried out..." In other words,

(Continued next page)

the administration is deregulating accountability.

It was wise not to attack directly when an April 2000 Gallup poll showed that 83 percent of Americans agreed with the goals of the environmental movement.

Yet more recent polling results are growing murkier regarding the environment.

In a March 2004 Gallup poll, 62 percent of Americans said they worried a great deal or fair amount about the quality of the environment – down from 77 percent in March 2001. Also, 46 percent said Bush is doing a poor job on the environment (up from 38 percent in 2001) and 41 percent say he's doing a good job on the environment (down from 51 percent).

Helvarg's incisive update provides a historical perspective and a readout on the Administration's backhanded policies that is sorely needed before the 2004 elections.

Mindy Pennybacker edits The Green Guide *newsletter in New York City.*

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Ecosystem management: All is not lost, even under Bush

KEEPING FAITH WITH NATURE: ECOSYSTEMS, DEMOCRACY AND AMERICA'S PUBLIC LANDS
By Robert B. Keiter
Yale University Press, $45

By JOHN FLESHER

After reading Robert Keiter's guardedly optimistic analysis of where public land management in the United States is headed, environmentalists mired in gloom over Bush administration policies might conclude that, hey, all is not lost.

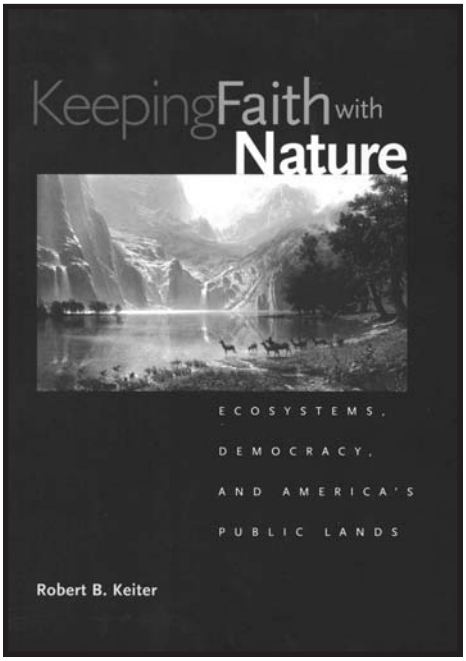
Keiter offers persuasive evidence that a more enlightened attitude is taking root toward national parks, forests, monuments and the rest of the federal estate, despite occasional setbacks and die-hard opposition from powerful interests such as logging and ranching. But he acknowledges it is not clear whether this nascent "age of ecology" will burst into bloom or be nipped in the bud.

The history of the 663 million acres of federal lands, concentrated mostly in the West, makes for great storytelling. Authors such as the late Marc Reisner and Charles Wilkinson crafted masterful accounts of how government policy toward Western public lands took shape. Their accounts were leavened with colorful tales of politicians, tycoons and other influential characters. Keiter also focuses on the West but, alas, is not in Reisner or Wilkinson's league as a storyteller; "Keeping Faith with Nature" gets a bit tedious. Still, it is highly informative and well worth the time of any reader wishing to understand the struggle to change the longstanding, dominant belief that public lands' only worth is in creating wealth and jobs.

Keiter argues that the economic utilitarianism of old is giving way to an ecological model for managing public lands. The new approach values natural resources as a critical stronghold for biodiversity instead of merely "plunder for the taking." He traces the ecological model's evolution from an ivory-tower talking point for scientists and philosophers to an impetus for laws such as the Endangered Species Act and the Wilderness Act. Then he shows how regulatory agencies have begun putting ecosystem management into practice – sometimes grudgingly.

Among the book's many strengths are breadth and evenhandedness. Keiter is a law professor and director of the Wallace Stegner Center for Land, Resources and the Environment at the University of Utah, which helps explain his interdisciplinary approach: a blend of history, law, politics and science, presented in the orderly, dispassionate fashion of a wise teacher.

His opening chapters describe the West's progression from the late 19th century, when settlers invaded the region and laissez-faire capitalism prevailed, to the era personified by Forest Service patriarch Gifford Pinchot, who believed land and resources existed for people to use but should be handled with care to avoid depletion; and finally to the modern "preservation" period, in which nature is regarded as worthy of protection for its own sake. Keiter also introduces key players and explains their roles in the public lands drama, including Congress, the courts, regulatory agencies and groups representing interests such as mining and conservation.



The remainder of the book explores the fiercely contested effort to usher in a new era of "ecosystem management," a term so new it has no universally accepted definition. Yet among its bedrock principles are sustainability, natural diversity and a holistic approach that sees land and resources as complex webs of life instead of unrelated raw materials. It is more respectful of ecological than political boundaries, and so requires cooperation between government agencies and special interests accustomed to protecting their turf.

Given all that, it's not surprising that ecosystem management is a hot-button topic. Keiter places it in the context of such bitterly contested issues as spotted owl habitat in the Pacific Northwest, the reintroduction of wolves to Yellowstone National Park and fire as a forest management tool.

He concedes that industry, the property-rights movement and their old-guard allies in government sometimes stop ecological methods of land management from taking effect. Yet step by agonizing step, ecological principles have gained footholds, often under court orders or presidential proclamations. Even some foes have accepted the inevitable and sought compromise – for example, when timber companies and envi-

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ronmentalists formed the "Quincy Library Group" to plan sustainable logging in California's northern Sierra Nevada mountains. Such locally based approaches to managing federal resources have their own problems, but Keiter considers them progress over previous stalemates.

What's the future of ecosystem management? Keiter offers no guarantees, but he envisions a West where loggers and ranchers peacefully coexist with tree-huggers and grizzly bears, where "a biodiversity conservation ethic prevails on the public lands and a new civility has taken hold" among competing interest groups.

Utopian idealism? Perhaps, he admits. It ultimately boils down to practical politics – the slow, frustrating task of convincing citizens and their government that managing public lands for the benefit of ecosystems is in everyone's best interest. "There is," he concludes, "no other way in a democracy."

John Flesher is a northern Michigan correspondent for The Associated Press.

■■■

Study of epidemic especially relevant today

THE GREAT INFLUENZA: THE EPIC STORY OF THE DEADLIEST PLAGUE IN HISTORY
By John M. Barry
Viking, $29.95

By MARK NEUZIL

I read this book and was sick for a week.

That's an exaggeration. But it is difficult not to feel a bit queasy after spending time with John Barry's new book, "The Great Influenza." It's the story of the 1918 flu pandemic that killed an estimated 50 million to 100 million people around the globe in that year – in just a few weeks, according to the best medical evidence. It was the deadliest plague in human history, killing perhaps 675,000 in the United States alone. And, because of the nature of the disease, it did not spare the young and hale – in fact, that part of the population typically able to ward off a fatal attack of the flu suffered a disproportionate number of deaths.

Like Barry's earlier book, "Rising Tide: The Great Mississippi Flood of 1927 and How It Changed America," "The Great Influenza" attempts to tell its story from what is called the "great person" approach to history. Men and women fight against all odds to track down the killer and bring it under control, with only limited success. Barry's heroes are the medical doctors and researchers like William Welch of Johns Hopkins, William Gorgas of the U.S. Army, Simon Flexner of the Rockefeller Institute, the doomed Paul Lewis of Princeton and the persistent and visionary Canadian-American, Oswald Avery.

Barry recounts how the influenza probably began in rural Kansas and spread like a fireworks display from Army base to Army base as World War I was winding down. Barry is a fine writer and it's a gripping (or *la grippe*, as the Spanish influenza was nicknamed) tale. One cannot tell the story of the 1918 flu without considering the war and how it a) packed in soldiers and sailors into unhealthy barracks and ships, allowing the flu to race from person to person and overwhelm the medical establishment, and, b) how the restrictions on civil liberties put in place by President Woodrow Wilson and his cabinet limited public knowledge of the outbreak, which likely made it worse.

In fact, two of the great lessons from Barry's book are how the press functioned (or did not function) as it "covered" the epidemic and how the flu may have affected Wilson's behavior during the post-war peace talks in France. In the case of the first, the newspapers did not cover themselves in glory – in instance after instance, papers large and small minimized, covered up, lied about or ignored the epidemic, partly because they did not want to dampen morale during wartime.

"The public could trust nothing and so they knew nothing," Barry writes. "So a terror seeped into the society that prevented one woman from caring for her sister, that prevented volunteers from bringing food to families too ill to feed themselves and who starved to death because of it, that prevented trained nurses from responding to the most urgent calls for their services."

It's a media lesson of particular import in these Patriot Act times.

Barry posits that Wilson abandoned nearly every principle he held in Paris to the demands of French premier Georges Clemenceau – which later caused Germany's economic ruin and gave rise to Adolph Hitler – because he was physically and mentally sick with the great flu. Had Wilson been healthy, it is possible Clemenceau would have been forced to compromise. Wilson capitulated on every point except his precious League of Nations. John Maynard Keynes quit Paris and called the president "the greatest fraud on earth."

American medicine – indeed, American science — was changed by the flu. The visionary Avery toiled over influenza and pneumonia for years and years; along the way, it was he who discovered that deoxyribonucleic acid (DNA) serves as genetic material. Published in 1944, Avery's work was met with a great deal of skepticism but eventually led to Watson and Crick's 1953 double helix discovery.

Other colleagues were less successful. Lewis spent years in a lab at Princeton and got nowhere; his theories and experiments simply failed. Lewis ultimately, perhaps, could not continue living as a university scientist because of his setbacks in the lab and at home and died on a research trip in the South American jungle of what Barry hints may have been a suicide.

"The Great Influenza" is an important book for reporters and editors who are smart enough to realize, in an age of SARS and ARDS and HIV, that as John Buchan said, "History gives us a kind of chart, and we dare not surrender even a small rushlight in the darkness. The hasty reformer who does not remember the past will find himself condemned to repeat it."

Mark Neuzil is author of "Views on the Mississippi: The Photographs of Henry Peter Bosse." His forthcoming book, co-authored with Matthew Dacy, is on the Mayo brothers. He is chair of the Department of Journalism and Mass Communication at the University of St. Thomas in St. Paul, Minn.

Viewpoint... (from page 4)

in Germany's stork population at the same time the German birth rate was decreasing. Proof then those storks bring babies? No, just a case where one event took place at the same time as another, but had nothing whatsoever to do with the second event's occurrence.

In medical science, what *looks like* a connection between an exposure and an adverse health effect may simply be coincidence, or the hidden effect of another factor. This is a fundamental and elementary notion in epidemiology, toxicology, and the other investigative sciences – indeed, it is the job of researchers in these fields to distinguish true causal relationships from fictitious ones.

Exactly *when* causation is established is a complex matter that is affected by many factors and is often the subject of dispute. But there is no dispute that the mere presence of a potentially hazardous substance or event before someone gets sick is not proof that a causal relationship exists. And if the suspected causal factor has no known connection to the disease condition, there is even more reason to be skeptical.

About Scientific Evidence

So when two sides in a dispute over an alleged hazard brandish conflicting evidence, one claiming "cause and effect" and the other claiming no relation, who do we believe? Realistically, not many journalists or their readers are trained to judge the merits of an entire body of scientific evidence, so we tend to rely on expert panels convened by industry or government, as well as the pronouncements of objective academic researchers. It is helpful, however, to know some of the key factors scientists consider when conducting their assessments. These factors define questions journalists can ask when investigating reports of puzzling disease cases or adverse effects of drugs, foods, or chemicals.

Types of evidence

First, scientific evidence comes in various forms, with some carrying more weight than others. At the low end of the spectrum are individual incidents or case reports. These are essentially anecdotes. They describe the experience of one or more individuals who have taken a drug or food product, been exposed to a chemical, or undergone a medical procedure. Case reports are useful to clinicians and often serve to trigger a more thorough investigation of the observed phenomenon.

Individual cases, either by themselves or as part of a group of similar incidents, do not constitute proof of anything. Yet all journalists are aware of their dramatic appeal. Stories of people, especially children, who claim to have been harmed by drugs, medical science or by poisons in the environment certainly incite readers' sympathy. Heart-wrenching as they may be, however, anecdotal reports are not science.

Real evidence of cause and effect comes from well designed studies of both people and animals. Epidemiologists and other trained experts employ a number of study types to determine the effects of drugs, chemicals, behaviors, and other factors on human populations. They include case-control studies, cohort studies, and the gold standard of research design – the randomized, placebo controlled, double blind study. Each of these formats has advantages and disadvantages compared to the others and all are relied upon heavily to produce evidence of adverse or beneficial effects on health.

Peer review

All scientific studies, when conducted properly, proceed under a well defined framework of guidelines developed by the scientific community, as well as government rules that pertain to scientific research. It may not be possible to tell from news reports that authors of a study complied with these rules, but we can assume that most do. The reason is that legitimate scientific research is always subject to *peer review* before it ever gets published.

Peer review is a forum wherein scientists judge other scientists on the quality of their work before it is published. Papers offered to a journal for publication are sent to other scientists in the same field. The identities of the reviewers are often unknown

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to the author. The reviewers critique the paper to determine if the research and analyses have been done correctly, conform to recognized standards, and contribute something new to the issue under study. The reviewers also offer comments aimed at strengthening the results and making the paper more suitable for the journal.

Most papers survive peer review, but some don't. To be credible, however, it is vital that a study appear in a journal that ascribes to peer review, which includes most of the reputable ones. Studies that appear solely on the Internet or other venue outside of the journal arena often escape peer review and should be viewed with caution. Journalists are certainly free (and even obligated) to write or report on issues raised in non-peer reviewed studies, but should reveal the lack of peer review to the readers.

Other factors

Aside from peer review, another factor that attests to a study's credibility is its *reproducibility.* Not even the most well conducted study proves anything on its own – its findings must be replicated, as closely as possible, before they merit serious concern. This idea is related to the notion of extraordinary findings discussed earlier. One study can generate interest, but mostly should be an impetus for further investigation.

On a practical level, it is also helpful to learn something about the *strength* of a study's findings. One indication of this is the size of the study sample, with the general rule being that the greater the sample size, the more predictive power the study has, other things being equal. The larger sample size reduces the statistical error, making the results more precise. Thus a 2002 Swiss study that last year reported the negative effect of moderate coffee drinking on the cardiovascular system probably doesn't provide reason to change our breakfast habits since the total study group numbered only 15 individuals. [4]

Another factor to consider is the magnitude of the effect that the study purportedly identifies. Researchers employ concepts such as "relative risk" or "odds ratios" to characterize the impact on the study group as compared with a "control group" that does not experience the treatment or exposure under investigation (again, other things being equal.) The measures are calculated statistically and usually translated into percentage terms.

But is the finding really worthy of concern? How large is the alleged risk, in other words, and is it a reason to change our behavior? This is a value judgment of course, but consider this: A 100% increase in the chance of contracting a disease as the result of an exposure sounds pretty ominous, but what if the risk of getting the disease without the exposure is only 1 in one million? A 100% increase changes this to 2 in one million, or 1 in 500,000, which is a still very low odd.

For the most part, the aforementioned concepts apply just as rigidly to other types of human investigation such as studies of cells, fluids, and tissues, *in vitro* (*i.e.,* test tube) and *in vivo* (*i.e.,* within the body). They also apply to animal studies conducted on rats, mice, dogs, and other species. Well-designed animal studies are undoubtedly important, but animals are not small humans. Some species can be good models for human responses to certain compounds, but others are very poor models. Thus most scientists hesitate to confirm the existence of a causal relationship on the basis of animal evidence alone. Such studies add to the overall weight-of-the-evidence, but need support from human studies to truly pinpoint a human health hazard.

The question of trade-offs

As evidence concerning a possible hazard accumulates, it may or may not provide compelling incentive for action. But before taking that action, either personally or collectively, it is important to examine the trade-offs that will inevitably be involved.

A good example of potential trade-offs involves the use of vinyl medical products in health care settings. In recent years, certain groups have cited medical devices made from vinyl as a source of exposure to a chemical plasticizer that leaches in small amounts from the devices in various clinical situations.[5] These groups point to studies that show the chemical to be harmful to rodents when fed in very large doses. Federal regulators of medical products have cited a number of medical procedures that can produce elevated exposures to the chemical in patients that undergo those procedures.[6]

On the other hand, the U.S. Food & Drug Administration, which examined the scientific evidence extensively, has stressed that "the risk of not doing a needed procedure is far greater than the risk associated with exposure to DEHP" (i.e., the plasticizer used in medical vinyl.)[7] Meanwhile vinyl has long been the primary material of choice for blood bags, tubing, catheters, and numerous other clinical devices. One manufacturer estimates that there have been five to seven billion patient-days of acute exposure and one to two billion days of chronic exposure to plasticized medical products without any verified reports of significant adverse effects.[8]

So who do we believe? Opponents of vinyl cite the availability of alternative materials, which do exist for some applications. But none of the alternatives has been studied nearly as extensively or used safely as long as plasticized vinyl. So while it may be reasonable to argue that more research is warranted, can anyone guarantee that other, less tested materials wouldn't have their own potential for health risks?

Few of us would argue that we shouldn't sometimes take precautionary measures while research is being conducted. But whatever we do, we should never lose sight of the fact that actions taken to eliminate a perceived risk do not occur in a vacuum. They usually involve costs or consequences that may be more onerous than the alleged hazard they are intended to reduce.

A more dramatic example of unforeseen consequences occurred in the 1990s over allegations that chlorine-based disinfectants produce carcinogenic by-products. Environmental and "public health" groups have cited this concern for years in lobbying regulators to eliminate chlorine, the most effective disinfectant ever devised, from industrial and commercial use.

Overall this campaign has achieved some success, with unfortunately disastrous results. The most highly publicized occurred in the 1990s in Peru, where a decision to stop disinfecting drinking water with chlorine helped create a resurgence of cholera that eventually reached neighboring countries, killed thousands of people and afflicted hundreds of thousands more.[9] The notion of "Risk vs. Risk," therefore, is crucial when assessing the wisdom of actions taken to improve human health or the environment. Journalists provide a great service to their readers by making some attempt to compare a risk under investigation with the possible risks that might result from actions taken to avoid it.

Science and science reporting

Finally, it's worth recalling the nature of scientific inquiry.

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Pure science is non-judgmental, free of bias, and dedicated to the pursuit of truth. But the *use* of science isn't bound by such restrictions, nor is the reporting of science news. Certainly most journalists seek balance and fairness in their stories, but they don't always succeed. This may stem from a lack of familiarity with some of the concepts discussed above, or even from biases within themselves or the venue in which they work

Even balanced reporting can be misleading, however. Simply allowing each side to state their case doesn't really tell readers much about who they should believe. Readers need some indication of which position is more consistent with the weight of the evidence. And of course they need details, especially those that allow them to assess the credibility of parties on both sides of the issue.

The key, of course, is to tell the whole story. Last year, for instance, consumers were made aware of the allegation that farm-raised salmon contained high levels of polychlorinated biphenyls (PCBs) and thus posed a health threat to the millions of Americans who eat them. PCBs are chemicals that once were used in hundreds of industrial and commercial applications. They attracted widespread concern in the 1970s when they were identified as a probable cause of cancer and damage to the nervous system, and were ultimately banned.

The primary driver of the salmon story initially was a report issued by an environmental advocacy organization with a long history of publicizing potential health threats.[10] The report appeared on the group's web site and contained no information about the credentials, or even the identity, of its authors. What's more, it was unpublished and thus did not undergo peer review. This was particularly troublesome since the report contained a "risk assessment" that purportedly demonstrated that regular salmon eaters faced an elevated risk of cancer.

In early 2004, however, when a study of farmed salmon conducted at the University of Albany concluded that "consumption of farmed Atlantic salmon may pose health risks that detract from the beneficial effects of fish," the allegation gained credibility.[11] The study appeared in *Science*, a highly respected publication, and thus was trumpeted in numerous press releases issued by the advocacy group and others like it.

On the other side of the issue, meanwhile, was the study authors' own disclaimer that "The potential risks of eating contaminated farmed salmon have not been well evaluated. Three previous studies reporting contaminants in salmon are inconclusive because of their very small sample sizes and narrow geographic representation. As a result, the extent of this problem and potential risks to human health remain unclear."[12]

Most news reports presented arguments from both sides in a fairly balanced way. But hardly any mentioned the authors' disclaimer, which was arguably the most pertinent piece of information. Others ran the story under headlines that suggested the *Nature* study contained definitive proof that the risk was real.[13] And very few described the nature of the advocacy group that fueled the controversy in the first place or identified its funding sources.[14]

So which parties in this dispute have the most credibility? That is for consumers to decide, but they should know the whole story before making that decision. The salmon controversy is a good example of how important just a few details can be in providing a truly balanced account.

Conclusion

Ascertaining cause and effect in biological systems is very complex. It is fraught with uncertainty and not widely understood outside of the scientific arena. Thus it is often difficult for non-scientists to judge the credibility of reports of risk to public health or the environment.

Journalists who report such allegations can empower readers to make more informed decisions by ensuring that their reports reflect the tenets of good science. Does the alleged risk stem from a series of anecdotes, or from an investigative study? If it's a study, was it peer reviewed? Is the allegation based solely on animal data? And how big is the risk anyway? Aided by the answers to these questions, readers can approach the dilemma of "Who do we believe?" with insight and confidence.

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Lead in D.C. drinking water and other water issues

By MIKE DUNNE

A team of reporters from *The Washington Post* has been busy all spring keeping up with a story that impacts everyone who drinks tap water in the District of Columbia.

The story grew into a national issue as the U.S. Environmental Protection Agency asked states to look at their programs for similar testing and public notification.

Metro reporter David Nakamura broke the story initially in January, when tests showed lead in drinking water samples well above federal standards. As the story and coverage grew, the public found out it was not just Washington, D.C., with the problem. Some communities surrounding the nation's capital had similar problems with the level of lead in the water.

Several homes in Arlington tested positive for excessive lead, which prompted tests in Fairfax City, Vienna, the city of Falls Church, Loudoun County and parts of Fairfax County. None of those tests had revealed any significant problem.

When the problems were first publicized in late January, officials from the district Water and Sewer Administration, or WASA, said the contamination was confined to homes with lead service lines – about 23,000 in all. But then some homes with copper service lines showed elevated lead levels, indicating a broader problem. Some officials expressed concern that chemicals used to disinfect the water had enabled lead to leach from pipes in the aging system.

City and federal officials said a new round of testing in March would aim to develop a more complete picture of contamination problems throughout the city, not just in those homes believed to be served by lead lines.

On March 16, D'Vera Cohen and Carol Leonnig reported federal authorities responsible for ensuring the safety of Washington's water knew about the toxic levels of lead and the likely solution more than a year before. However, they took no action, according to records and interviews. Senior D.C. government officials knew that the city's water contained unsafe levels of lead 15 months before the public learned of the problem, but failed to flag the issue as a major concern, according to internal documents that contradicted accounts provided earlier by top managers, they reported.

On March 18, *The Post* published a list of homes where lead had been detected. The list took up seven pages of the newspaper. *The Post's* website also offers maps dotted with test result locations. A reader could click on a location and obtain test results and an address.

On May 21, Cohen reported "Lead levels in D.C. drinking water fell significantly after the city's water treatment plants switched to chlorine for annual pipe-flushing this spring, providing the first concrete evidence of the cause of excessive lead levels in thousands of homes." The district changed to chlorine from chloramines, which are often thought of as safer to handle and create fewer byproducts that are thought to be cancer-causing.

Photo courtesy of THE DES MOINES REGISTER

Vivian Knebel of Hills, Iowa, drinks tea made with bottled water paid for by the Environmental Protection Agency. Her well water contains unacceptable levels of the chemical perchlorate.

On April 2, *The Post* reported WASA officials violated federal law by failing to properly notify city residents of high lead levels in the drinking water and to adequately protect public health, regulators at the U.S. Environmental Protection Agency said.

On March 28, Avram Goldstein reported that officials tested 909 children during free blood screening for residents concerned about lead in the city's drinking water. Only 14 children were found to have elevated blood levels.

Three days later, Goldstein reported on a study released by district and federal officials that suggests that a change in the treatment of the water supply halted a decline in the levels of lead found in the blood of children younger than 6.

See coverage at: www.washingtonpost.com/wp-dyn/metro/specials/water/

Water was a major topic for many other environmental reporters this quarter.

The stories looked at contaminated ground water, polluted surface waters, the growing lack of water, and what happens to the water after we use it.

T*he Nashville Tennessean's* Holly Edwards reported March 3 that more residents who live as far as two miles from the Dickinson County landfill have filed lawsuits alleging their property was damaged by contaminated groundwater under their homes. The state discovered last fall that

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ground water from the landfill, which apparently contained toxic wastes, had escaped the landfill and now flows under area homes. Those named in the lawsuit include companies that buried hazardous materials at the landfill, two former employees of those companies, and the city of Dickson.

On Feb. 10, Jim Bruggers of the Louisville *Courier-Journal* reported that more than 130 groups across the nation have petitioned the federal government to stop allowing waste ash from coal-fired power plants to be dumped where it can come into contact with drinking water supplies. "This is the most basic public health step needed when it comes to any (type of) waste," said Brian Wright, coal policy director with the Hoosier Environmental Council, one of the lead petitioners to the U.S. Environmental Protection Agency.

Perry Beeman of the *Des Moines Register* reported residents of Hills, Iowa, are drinking bottled water as they wonder how a rocket-fuel ingredient spoiled their wells. Some aren't happy that state health and environmental officials failed to pass the word to the town's 697 residents after the EPA first discovered perchlorate at Hills in tests two or three years ago.

City officials, all of whom have private wells, didn't tell them, either. Most residents found out last year, when federal workers did follow-up tests that found widespread trouble.

Dawn Fallik of the *Philadelphia Inquirer* reported there is no state agency that regulates well water in Pennsylvania, even though a third of state residents get their drinking water from private wells. Below southeastern Pennsylvania, much of the groundwater is polluted with toxic chemicals, the legacy of industrial waste. One of the most frequent contaminants is trichloroethylene, or TCE, a metal degreaser linked to increased risk of leukemia and liver cancer.

"The state knows. The companies that spilled the chemicals know. Public water companies, required to test and treat for chemicals, know. But frequently, the residents who are drinking the water do not know of contamination," Fallik reported. Pennsylvania is one of three states that do not regulate residential wells. The others are Massachusetts and Alaska. Pennsylvania, like most states, does not require testing for toxic chemicals. Some states, including New Jersey, require tests for bacteria and nitrates, but Pennsylvania does not.

On March 13, Jim Skeen of the Los Angeles *Daily News* reported the apparent success of a new technology aimed at removing perchlorate from groundwater. One year into a field test at Edwards Air Force Base, it has removed 27 pounds of the contaminant from 7.8 million gallons of water. Oak Ridge National Laboratory, in conjunction with Edwards, is testing the technique at the former Jet Propulsion Laboratory site, where high levels of the rocket-fuel ingredient, a chemical that can impair thyroid function, have been found. Perchlorate has been detected at several areas in shallow groundwater around Edwards, but none of the contamination threatens the base's drinking-water wells, officials said.

Patrick O'Driscoll of *USA TODAY* wrote March 14 that efforts to conserve water, from low-flush toilets to more efficient power plants and crop irrigation, are working so well that Americans use less of it than they did 30 years ago, according to a report issued by the federal government. The flat trend in consumption came even as the U.S. population grew and electricity production, the largest user of water, increased. The U.S. Geological Survey said consumption is largely unchanged since 1985 but is 25 percent less than in the 1970s. The agency examined 50 years of water use through 2000, O'Driscoll reported March 12.

Rick Weiss of *The Washington Post* reported March 29 that the first study to look at the health effects of microscopic, manufactured "nanoparticles" on aquatic animals has found troubling evidence that they can trigger organ damage and other toxic effects.

At modest concentrations in aquarium water, the minuscule particles – which are made of carbon atoms and are less than one-thousandth the diameter of a human hair – triggered damaging biochemical reactions in the brains of fish. They also wiped out entire populations of "water fleas," tiny animals that fill an ecologically crucial niche near the bottom of the aquatic food chain, Weiss reported.

On Feb. 10, Lisa Stiffler and Jennifer Lloyd reported in the *Seattle Post-Intelligencer* that state and federal officials vowed to spend millions to save Hood Canal from becoming a "dead sea" from pollution that's suffocating fish, octopuses and eels. Gov. Gary Locke and U.S. Rep. Norm Dicks, D-Wash., announced an ambitious recovery plan for the 60-mile-long fjord that will include federal, state, local, tribal and volunteer efforts.

Denver Post reporter Theo Stein wrote about potential water shortages as the West enters what looks like another year of drought. In an April 4 story, Stein said Lake Powell, which has provided water for the parched plains during five years of hard drought, is now more than half empty. If the drought continues, the 186-mile-long reservoir in Utah and Arizona could be drained dry as early as 2007, federal officials say. More than 30 million Westerners who depend on the Colorado River for their drinking water could face an uncertain future of recurring water shortages.

There was also a lot written about mercury.

The Bergen Record has been running an occasional series called "Tainted Planet." On March 14, reporters Lindy Washburn and Alex Nussbaum wrote: "The nation's smokestacks aren't just polluting the air – they are contaminating our waters, and our bodies.

"The mercury that rises from those industrial stacks floats through the atmosphere and settles in rivers, lakes, and oceans, contaminating fish and finding its way to dinner tables across the nation. A growing number of studies document the human toll: Children exposed to mercury are slower to walk and talk and may be more susceptible to autism and attention deficit disorders. Adults can suffer memory loss, nerve damage, and fatigue."

The package, which continued March 15 and 16, told readers about a lake with a high level of mercury and how health officials worry about immigrants using mercury as a folk remedy or in religious rites and the legacy of contamination it may leave in urban areas.

On April 8, the newspaper followed up with a story in which a New Jersey toxicologist said the Bush administration rewrote results of a report he helped craft to mini-

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mize the dangers of mercury pollution.

On Feb. 2, Elizabeth Weise of *USA TODAY* reported that Harvard School of Public Health scientists found methyl mercury contamination of seafood can cause heart damage and irreversible impairment to brain function in children, both in the womb and as they grow.

"If something happens in the brain at development, you don't get a second chance," says lead researcher Philippe Grandjean. The findings came a week after the EPA doubled its estimates of how many U.S. infants are exposed to mercury in the womb. New data suggest that more than 600,000 infants are born each year with blood mercury levels higher than 5.8 parts per billion, the EPA level of concern.

On Feb. 8, Marie Rhode of the *Milwaukee Journal Sentinel* reported the city's sewage district is requiring dentists to install devices that will remove the mercury contained in silver-colored fillings from wastewater. Steve Brachman, a waste reduction specialist for the University of Wisconsin Extension, praised the Milwaukee Metropolitan Sewerage District for being "a leader in reduction efforts" nationally. The Wisconsin Dental Association, representing 2,800 dentists, supports the effort. Dentists will have until February 2008 to comply.

A Feb. 29 story by Jane Kay at the *San Francisco Chronicle* reported that the U.S. Food and Drug Administration was preparing to issue a new advisory to protect consumers from unsafe levels of mercury in fish: It is scrutinizing one of the nation's favorite meals – the tuna sandwich. High in protein, low in artery-clogging fats and rich in heart-healthy omega-3 fatty acids, tuna is the second most popular seafood in the United States after shrimp. About 1.5 billion cans are sold in the United States every year.

On April 30, Juliet Eilperin of *The Washington Post* wrote that after a flood of public responses to proposed new regulations to limit the amount of toxic mercury emitted by power plants, the Environmental Protection Agency extended the comment period by two months. Final action may be put off until March 2005.

What happens to the water we use after we consume it also continues to be a good source of stories.

On Feb. 7, *Mobile Press-Register* Environmental Editor Bill Finch reported that Mobile County District Attorney John Tyson Jr. was investigating possible criminal activities associated with a massive, months-long sewer spill in Prichard. Sewer officials there said they believed they stopped the spill, about a half mile from Eight Mile Creek. But *Press-Register* research indicated the spill flowed unchecked for more than five months, and resulted in the loss of tens of millions of gallons of untreated sewage.

Bruggers of the Louisville *Courier-Journal* reported Feb. 28 that Kentucky regulators sued the Metropolitan Sewer District for over 258 alleged violations of the Clean Water Act since January 1999, including discharges throughout the metro Louisville system. The Kentucky Environmental and Public Protection Cabinet also announced a separate $1 million legal agreement with MSD over numerous water pollution violations at a treatment plant, which is completing a major upgrade.

The actions come at the same time the EPA is conducting its own investigation into MSD's environmental performance. EPA orders in similar-size cities have resulted in price tags of $1 billion or more to curb sewage overflows.

Down along the Gulf Coast, the Biloxi *Sun-Herald's* Greg Harman reported that water pollution from coastal harbors and the polluted storm water that flushes from land with each significant rainfall are more significant to water pollution than sources that often make news, like a sunken ship leaking diesel fuel.

"It's the harbors that are the worst," said Judy Lytle, professor at the University of Southern Mississippi's Gulf Coast Research Lab in Ocean Springs. "Just look at the trash going into the ditches. They'll do the same with crankcase oil out on the water when no one is looking." The rush of polluted rainwater, which washes streets clear of their buildup of gasoline, oil and brake-pad material, is listed by the U.S. Environmental Protection Agency as the top source of pollution of surface water.

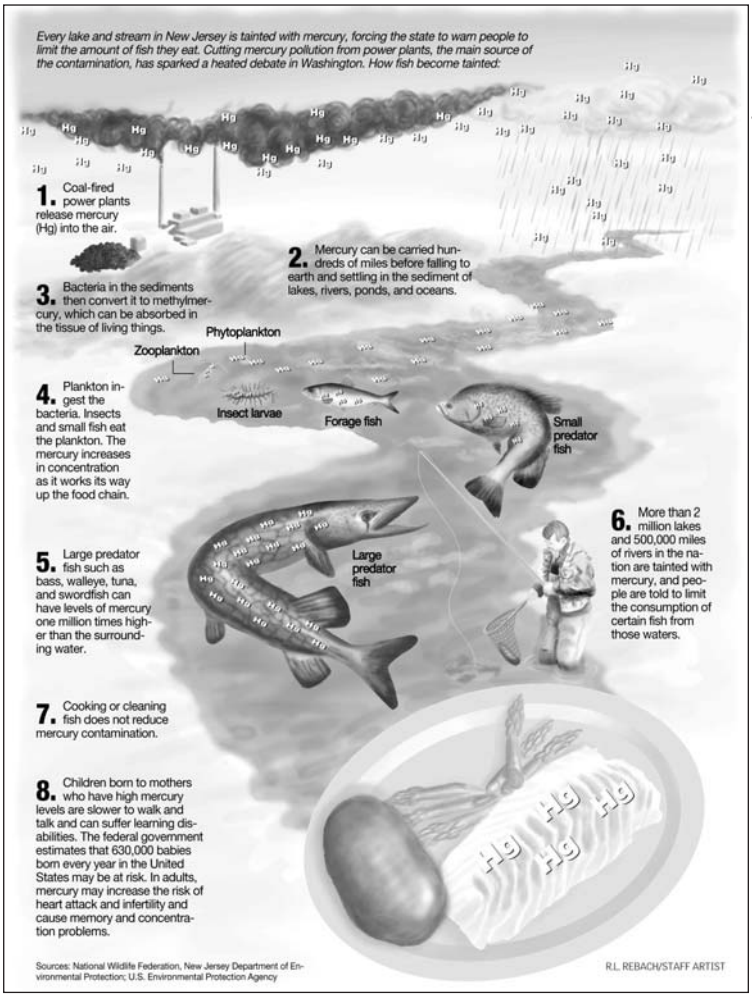

Photo courtesy of THE BERGEN RECORD

All that waste treatment creates sewage sludge that makes good stories, too.

On Feb. 10, *Charlotte Observer* reporter Bruce Henderson said federal regulators will launch new studies of the use of sewage sludge as farm fertilizer. Charlotte-Mecklenburg Utilities produces 80,000 wet tons a year of "biosolids," the industry term for treated sludge. It is one of 170 North Carolina utilities and busi-

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nesses that apply the stuff to land. The practice has roots as old as agriculture. Rich in nutrients, the sewage sludge is processed to remove harmful amounts of metals and disease-carrying microbes. But some people claim sludge made them sick and has technology found a way to mute the smell, a growing source of complaints as suburbs encircle farms.

On March 21, Dana Sanchez of the *Bradenton Herald* reported about the problems cooking grease creates for sewers and what Manatee County is doing to lessen such blockages. The EPA estimates that 40 to 70 percent of dry weather backflows are caused by grease blockages, said David Shulmister, wastewater division manager for Manatee County.

The cost of operating sewage systems is hampering development around Bellville, Ill., reported Patrick Powers in the *News-Democrat* on March 15. The rising costs of connecting to the Caseyville Township sewer system are curbing growth in one of the fastest-growing commercial districts in the area, developers told Powers. "They're discouraging new construction," said David Roth, Fountains at Fairview developer. We've had several hotels look (into building) at the Fountains, but when they get to the tap-in fees, that's the straw that breaks the camel's back." Sewer tap-in costs topped $170,000 for the Sheraton Four Points Hotel and conference center, Roth said. Prospective developments now balk at paying so much. "We've had contracts with two different hotels, and both backed out," he said. "They just can't get the thing to work economically."

In addition to the Indianapolis project, there was a lot of air quality news.

On March 2, Anthony DePalma of the *New York Times* reported that up to 20 percent of the thousands of apartments affected by the Sept. 11 collapse of the World Trade Center will be tested again to ensure their safety.

On Feb. 14, Scott Streater of the *Fort Worth Star-Telegram* wrote that a committee of local leaders is proposing six projects to reduce ozone-producing pollution from motor vehicles, including possibly reducing car insurance rates for those who drive less. The North Texas Clean Air Steering Committee directed regional planners Friday to spend up to $5 million to develop the projects, all aimed at reducing emissions from cars and trucks. Motor vehicles generate far more ozone-producing emissions than any other source in Dallas-Fort Worth. Officials say the region cannot meet federal ozone standards without reducing emissions from tens of thousands of area cars and trucks.

Like a lot of reporters, Streater wrote a number of stories about ozone pollution in late April as federal officials released the list of counties that fail to comply with the new eight-hour federal ozone standard. Fort Worth, like many cities, is struggling to meet the less-stringent one-hour ozone standard.

In another example of the news created by the ozone list, Alexander Lane of the *Newark Star-Ledger* reported that EPA declared every county in New Jersey fails to meet a new national standard for ozone. "That came as little surprise, given that the state failed to meet the previous, less-strict standard," Lane wrote in an April 16 article.

On Feb. 18, John C. Kuehner of the *Cleveland Plain Dealer* reported as many as 26 counties, including most of Northeast Ohio, violate new federal standards for tiny airborne pollutants called particulates. Diesel trucks, coal-burning power plants and other industries, which are sources of the pollutants, could face new, tighter controls as the Ohio Environmental Protection Agency devises ways to improve the air Ohioans breathe.

Barbara Anderson of the *Fresno Bee* reported April 9 on the San Joaquin Valley's dubious honor of joining Los Angeles for the worst ozone levels. The EPA downgraded the San Joaquin Valley's rating, putting it into an unhealthy air category previously held only by Los Angeles. The federal agency was set to reclassify the Valley's air quality from "severe" to "extreme."

Asbestos and litigation also attracted attention.

A Feb. 6 story by *Reuters'* Susan Cornwell reported that companies have paid out an estimated $70 billion on some 730,000 asbestos personal injury claims, making it the most expensive type of litigation in U.S. history, according to the RAND Institute for Civil Justice. She reported that more than 8,400 companies have been named as defendants in the lawsuits dating back to the 1970s, involving almost every kind of industry. Stephen Carroll, the senior economist who worked on the study, presented the new estimates recently in a briefing to the British Law Institute in London. The numbers, which cover the period through the end of 2002, will be part of a new updated study that is to be published by RAND this spring.

The Las Vegas *Review-Journal* explored the asbestos problems plaguing much of the redevelopment work in that Mecca of gambling. One project added 19 days and cost between $500,000 and $1 million to the cost of redevelopment and is an example of the widespread asbestos contamination in downtown Las Vegas and along the Strip, and how it has to be addressed by developers. Environmental consultants say many of the older Las Vegas hotel-casinos are riddled with asbestos. Just last year, operators filed 32 notices of abatement programs with the Clark County Department of Air Quality Management.

On April 29, the *Missoula Independent* in Montana wrote that the EPA was not going to fund the cleanup of vermiculite-contaminated Libby, Mont., at the level originally promised. Jeff Woods reported that more than 180 residential and commercial properties have been cleaned, including the W.R. Grace mine's old processing plants and the school track. The Bush administration gave the Libby cleanup $4 million less this year than the $19 million dispersed the year before and $6 million less than the local EPA requested. Woods wrote that now the families of Libby may have to wait 12 years for the promised cleanup of their town, not the original five-year plan promised.

Across the country, on March 24, Mark Weiner of the *Syracuse Post-Standard* reported that for the first time in 40 years, state health officials acknowledged that vermiculite processed at a Zonolite plant probably exposed workers and their families to dangerous amounts of asbestos. State doctors recommended that former workers and household members seek medical tests for asbestos-related diseases. The state's health study concluded it is too early to determine if people living near the plant were harmed by the asbestos.

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On Feb. 10, Shankar Vedantam of *The Washington Post* wrote that federal officials ended their investigation into the country's first case of mad cow disease and failed to find almost two-thirds of the 80 cattle that had entered the United States from Canada with the infected Holstein. The 52 missing animals included 11 cows believed to be at higher risk because they were born about the same time as the Holstein and may have eaten the same contaminated feed.

By March 4, Sandi Doughton of the *Seattle Times* reported that the first mad-cow case spawned a criminal investigation into the possibility that federal inspectors falsified records about the infected cow. Phyllis Fong, inspector general for the U.S. Department of Agriculture, told a House subcommittee in Washington, D.C., that the criminal probe is being conducted in parallel with a non-criminal investigation by her office into USDA's response to the case and the agency's mad-cow testing program.

Now that the uproar over "mad cow" has begun to die down, Marc Kaufman of *The Washington Post* wrote that researchers and regulators are focusing new attention on a similar disease afflicting hundreds or thousands of deer and elk that roam freely across large parts of North America. Scientists have found no instances in which the disease in these animals has jumped to people, cattle or other animals.

But they say that possibility is both real and worrisome. The condition, known as chronic wasting disease, is also thought to be caused by prions, the proteins found in mad cow disease. The deer and elk version of the disease spreads far more easily, he reported.

The place that made toxic dumps famous – Love Canal in Niagara Falls, N.Y. – was declared clean enough to be removed from the Superfund list in March, according to a story by DePalma in *The New York Times*. Hundreds of families were evacuated from the neighborhood in 1978 after deadly chemicals started oozing through ground into basements and a school. The toxic wastes were blamed for birth defects and miscarriages.

The neighborhood was built on a 19th-century canal where a toxic mix of more than 80 industrial chemicals had been buried. The de-listing is mostly symbolic since most of the work on cleanup, which took 21 years and cost close to $400 million, was completed years ago.

The *Seattle Times'* Alex Pulaski reported Feb. 9 that nine out of 10 Northwest orchard workers – and nearly as many of their children – carry measurable levels of pesticides in their bodies. A study of 211 Yakima Valley farm worker families was published in the February issue of *Environmental Health Perspectives* magazine. Researchers with the Fred Hutchinson Cancer Research Center in Seattle and the University of Washington conducted the study. Advocates for farm workers are using the study to call for the banning of Guthion, a brand name for azinphos methyl, a fast-acting and relatively inexpensive pesticide.

Stories continue to be written about the dismantling of playground equipment built with wood preserved by an arsenic-based compound, copper chromated arsenate or CCA. Maria Papadopoulos, in the *Brockton Enterprise*, wrote that local playgrounds, which typically would be built with a local community group to design the structures and help build them, are now being torn down or sealed on a yearly basis. Most were built of pressure-treated wood that contained CCA in the 1980s, she reported March 14.

Joan Lowy of *Scripps-Howard News Service* wrote March 30 that while three months into his presidency, President Bush announced he would sign a treaty banning 12 of the world's most environmentally dangerous chemicals. "These pollutants are linked to developmental defects, cancer and other grave problems in humans and animals," Bush said. "The risks are great and the need for action is clear. We must work to eliminate or at least to severely restrict the release of these toxins without delay."

But three years later, the treaty is ready to go into effect without the United States. More than 50 nations have ratified the agreement, but congressional legislation to implement the treaty has stalled. Treaty supporters said the Bush administration has raised new concerns about the agreement, especially its provision allowing treaty partners to add other chemicals in the future.

Sara Shipley of the *St. Louis Post-Dispatch* continues to cover possible health problems for food workers. In an April 3 article, Shipley reported federal health investigators warn that the threat of "popcorn workers' lung" could go far beyond Midwestern microwave popcorn factories. Investigators at the National Institute for Occupational Safety and Health said workers who make a wide variety of food products could be at risk of developing a severe lung disease associated with breathing butter flavoring vapors.

There were several stories written about the 25th anniversary of the accident at the Three Mile Island Nuclear Power Plant near Philadelphia. Nuclear power appears to be finally rebounding from that black eye as it continues to be pushed as an answer to the growing costs of electricity.

On March 18, the Toronto *Globe and Mail's* Richard Mackie wrote that a report of a three-member commission headed by former Deputy Prime Minister John Manley argues that only nuclear reactors can supply the electricity needed in Ontario, sources who have seen the report said. Ontario should start with a $600-million project to rebuild one of three mothballed reactors at Pickering A, according to a major report on the province's controversial electricity utility, Ontario Power Generation.

Max Jarman wrote April 11 in the *Arizona Republic* that the aging nuclear fleet is causing concerns. Almost 20 years after the Palo Verde nuclear power station started up 20 miles outside Phoenix, no new nuclear power plant is on the drawing board and West Valley growth is encroaching ever closer to the plant's reactors. Palo Verde is headed toward midlife in the next few years, posing new regulatory and maintenance challenges. The units, built at a cost of $9.3 billion, initially were licensed for 40 years in the mid-1980s.

On March 22, the Great Lakes Radio Consortium's Mary Stucky reported on the use of corn-based ethanol as a way to power hydrogen fuel cells. Some see ethanol from corn as an environmentally friendly way to power fuel cells. Others see a boondoggle.

Anahad O'Connor of *The New York Times* reported Feb. 17 that a study says frequent use of antibiotics has been linked to a greater risk of breast cancer. Researchers who studied thousands of American women found that those who took the drugs most often had twice the risk of the disease. The study uncovered a relationship between greater use of antibiotics and a heightened risk of breast

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cancer, but researchers sought to temper their findings by cautioning that they had only highlighted an association, not a causal link.

On March 4, O'Connor reported that 10 of the 13 scientists who produced a 1998 study linking a childhood vaccine to several cases of autism retracted their conclusion. In a statement published in the March 6 issue of *The Lancet*, a British medical journal, the researchers conceded that they did not have enough evidence at the time to tie the measles, mumps and rubella vaccine, known as MMR, to the autism cases. The study has been blamed for a sharp drop in the number of British children being vaccinated and for outbreaks of measles.

Photo courtesy of THE BERGEN RECORD

Felix Mota, a voodoo priest in Passaic, N.J., stopped selling mercury in his store. But many other merchants continue, unaware of its health risks.

Bill Sloat of the *Cleveland Plain Dealer* reported April 4 that after two months of effort, federal officials now say they intercepted and eradicated dangerous tropical bacteria that accidentally slipped through U.S. quarantine in early January. Sloat reported America's tomato and potato crops could have been crippled in a massive economic disaster. It was also a lesson in how terrorists could attack the food chain. This scare came from an unregulated offshore plant farm that allowed the bacteria into the country.

Chemicals that mimic hormones also continued to make news. Martin Mittelstaedt of the Toronto *Globe and Mail* reported April 28 that Canadian researchers studying wildlife on the Great Lakes have found sexual abnormalities in male snapping turtles, with penis size diminished. Some males are able to produce egg yolk protein, a capability normally found only in females. It is part of a growing body of international evidence indicating that many species are suffering from exposure to so-called gender-bending chemicals, industrial pollutants that have been found to mimic sex hormones.

And Craig Pittman of the *St. Petersburg Times* had an entertaining story on Tom Pitchford's Florida Marine Mammal Pathology Laboratory on the Eckerd College campus. "Nearly every dead manatee in Florida is brought here so Pitchford and his colleagues can figure out what killed them. They're the C.S.I. of manatees," Pittman wrote on March 11. They also try to nurse sick and injured manatees back to health.

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