

SEJournal

The Quarterly Publication of the Society of Environmental Journalists

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Cultivating sources

To win and keep good sources, you must understand them

By **MICHAEL J. BERENS**

The elderly woman claimed a death ray shot pierced down from outer space and killed rabbits in the field behind her modest Ohio home.

She called police for weeks. Finally, an exasperated officer responded, coding the call as 16-B – police shorthand for mental case.

At the scene, however, the surprised officer reported that an intense beam of light shot from the sky and illuminated a rabbit in a nearby field. The rabbit keeled over, lifeless.

The officer also saw something else. Overhead was a police helicopter. A bored co-pilot used the mounted searchlight to expose rabbits before shooting them from the sky.

As a fledgling police beat reporter in the 1980s, this story provided two important lessons:

Never ignore any source of information.

Always visit in person.

Sources are the lifeblood of our business. Many journalists embrace organic interviewing techniques – unstructured, fly-by-the-seat strategies. But journalists covering science and environment beats know experts and bureaucrats are pressed

for time, and have often dealt with one too many unprepared, unsophisticated reporters.

It helps to approach interviews like a chess game with the notable difference that your counterpart can walk away if they don't like your opening move.

Movie actors commonly scream to directors, "What's my motivation? I can't do the scene unless you tell me my motivation!" Superior interviews are gleaned by understanding a source's motivation. All the interviewing tricks of the trade are useless if you've misread your subject.

Here are some strategies – laced with a little humor.

Bureaucratic Source: "I despise you, but you're useful."

Frequent types: Politicians; government supervisors; law enforcement supervisors

Strategy: Be relentlessly cordial. Never show frustration. When appropriate, share information that you kept out of your
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More on sources:

Sometimes you find them in your own back yard. p. 15

Inside Story:

Testing a family for pollutants yields startling results

By **MIKE DUNNE**

After being pelted with e-mails from women concerned after reading stories on the levels of flame retardants in the breast milk, *Oakland Tribune* reporter Doug Fischer realized that there may be a bigger question unasked and unanswered: What chemicals are we collecting in our bodies?

When editors asked for project ideas, Fischer did some more research and crafted a proposal. The result: "A Body's Burden," a three-part series on what the newspaper found when it tested a local family, the Hammond Hollands.

The family "lives at one end of the consumer-chemicals spectrum – they eat organic, avoid common household cleaners and pesticides, don't have wall-to-wall carpets or large new appliances. If anybody has a reduced body burden, odds were good it would be them. Or so we thought," says a story on how the newspaper did the story.

Contaminants tested for were a mix of the well-known, the relatively new, and the cutting edge, but not common poisons such as pesticides, dioxins and solvents.

The first part of the series covers the results of testing the family. Their results were surprisingly high. And it explores how no one really knows what chemicals our bodies absorb and whether the levels of man-made chemicals are harmful.

Part Two looked at how chemicals get on the market with little or no testing, using the case of perfluorooctane sulfonate, or PFOS, a key ingredient in Scotchgard.

A final day discussed the difficulty in proving links that many see between a body's burden on some chemicals and perceived or believed health problems.

The newspaper also decided to give readers a tour of their refrigerator and a test to consider what their body burden might be.

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¡SEJ da la bienvenida a periodistas ambientales de América Latina!

By **PERRY BEEMAN**

That welcome to Spanish-speaking journalists, printed in the Austin conference brochure, is a small but telling part of a major SEJ initiative.

I'm very glad to see it.

Many SEJ members have pushed for the group – truly international by membership – to reach out to a couple of obviously major and important constituencies. The first push was primarily in Canada, mainly because we had volunteers such as Peter Fairley and Saul Chernos and Jacques Rivard who were willing to recruit members, set up gatherings and push for fellowships.

The new services for our members, friends and new acquaintances in Latin America and other Spanish-speaking areas now are emerging. By the time you read this, a new Spanish section of our website should be up and running. It will offer several major SEJ documents and articles in Spanish, translated by people who know the language well. (I declined to help translate, fearing that my Spanish version of "Welcome to SEJ" would somehow come out "I am the walrus.")

Fortunately, the SEJ ranks include more than several folks who are well-versed in Spanish.

One, board member Bill Kovarik, the academic representative, is helping make sure key documents are translated. That includes a special dictionary of environmentally important words, slated for SEJ's website, the type of thing that's hard to pick up from the casual "Uno mas Dos Equis, por favor" type of exchange.

Another SEJ stalwart, vice president and programs guru Tim Wheeler, also is helping make sure the website reflects our growing Latin American constituency. So are many others, certainly including our web staffer, Cindy MacDonald, and conference co-chairs Dina Cappiello and Randy Loftis.

Some of this work has been years in the making. I recall one particularly important day, several years ago. The board was in Austin for a meeting, and *American-Statesman* editor Rich Oppel, a true friend of SEJ, invited the board to his home for an informal reception with visiting editors and reporters, many of them from Mexico City. It was a wonderful exchange that, along with an SEJ team's visit to Mexico City at another time, really helped remove any doubt that SEJ must move aggressively to be fully accessible to Spanish speakers.

Now, there are so many things happening. Some sessions at Austin will be translated, live, into Spanish. The conference program has a couple of sections in Spanish. We are working for a good turnout in Austin of reporters, editors and speakers from Mexico and other Latin American countries. We hope some Latin American journalists will take advantage of fellowships.

We are developing story tips for Latin American areas, with the help of the Knight Center for Environmental Journalism's PAL-NET listserve. That service has been more active than SEJ's Spanish-language list in recent years.

We're also reaching out to international organizations, such as Uruguay-based Tierramerica and the Panama-based Center for Latin American Journalism, among others. We're in touch with academic experts in Latin America. There is hope of joint reporting projects that might, for example, look at how local situations in the United States and Canada compare with local situations in Latin America, how the issues relate, and why people in one area should care about environmental issues facing the other areas.

Report from the Society's President

By
**Perry
Beeman**



Kovarik says the idea there is akin to the Main Street America/Third World project of the late 1980s in which organizers asked journalists to look at the interdependency of people in various countries, and challenged them to discard the dubious journalistic thought that readers and viewers had a small appetite for international news.

We're hoping Kovarik will help promote SEJ's goals in contacts with the National Association of Hispanic Journalists, another key player in all of this.

These are exciting prospects, and they don't end there. SEJ Executive Director Beth Parke has been working hard seeking grant money for a new staff position that would help our Latin American outreach in many ways. This person would "organize, market and implement outreach and education programs for journalists, students and educators" while working to "increase services to and participation by US Spanish-language and Latin American journalists."

Parke is following up what many of you, and the SEJ board, have said. We should reach out, especially beyond the northern and southern borders of the United States. That's in addition to serving areas in the United States where Spanish is prevalent, especially in California, Texas and other border states.

"With a fully funded project budget we would be well-positioned for success with targeted outreach, fellowships, publications, sessions and services for reporters, editors and producers who may be covering environment-related issues for Spanish-language news media in our hemisphere," Parke wrote in a grant application.

"SEJ's board, staff and volunteers see both needs and opportunities for development of Spanish-language services for environmental journalism," Parke wrote. "Environment-related issues are increasingly important in Mexico and other Latin American societies, where the spread of democracy and rapid industrialization,

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SEJ Journal

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SEJournal is available online at www.sej.org.

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SEJournal submission deadlines

Fall '05	August 1, 2005
Winter '05	November 1, 2005
Spring '06	February 1, 2006
Summer '06	May 1, 2006



Andrew Weegar, 1963-2005

Naturalist, journalist and SEJ friend dies

By MICHAEL MANSUR

A well-known and beloved instructor and colleague, Andrew Weegar, died in April in a tractor accident on his Maine farm.

Weegar, 41, was a journalist, woodworker, canoe-builder, farmer, naturalist and storyteller of extraordinary character and wit. He was known to his SEJ colleagues from his writings, including a popular column he wrote in the 1990s for the *Maine Times*, and his long association with the Institutes for Journalism & Natural Resources.

Weegar, who held a master's degree from Harvard Divinity School, helped to lead many of IJNR's expeditions for journalists, taking them across Alaska, Montana, Oregon, Georgia and, of course, Maine. He was associate director of the institute.

Susan Sharon, deputy news director of Maine Public Broadcasting Network, met Weegar during one of those expeditions and told the *Kennebec Journal* that she considered Weegar a friend.

"I thought Andrew Weegar was a true Renaissance man," she said. "He was the kind of person we need in this world."

News reports in Maine confirmed that Weegar died in an accident.

IJNR President Frank Allen, in a report to IJNR's friends and supporters, wrote that "Andrew shared enormous gifts of practical wisdom and profound inspiration with hundreds of people who participated along with him in 24 of IJNR's 28 expeditions and in various other activities, beginning with his first High Country Institute journey in Montana in 1997."

Allen said Weegar was widely respected for his knowledge and skills – as a naturalist, woodsman, fisherman, river guide, land steward, teacher and writer.

"He was also beloved for his keen sense of history, magnanimous spirit, cheerful disposition, delightful sense of humor and highly developed ability to spin tall tales," Allen said.

"We will never forget Andrew or his durable contributions to our organization and to the improvement of journalism."

Prior to joining IJNR, Andrew gathered and wrote in-depth stories about natural resources and rural communities for the *Maine Times*, one of America's oldest alternative weeklies. A native and life-long resident of Maine, he is survived by his

parents, siblings, his widow, Abby Holman, and their 6-year-old daughter, Molly.

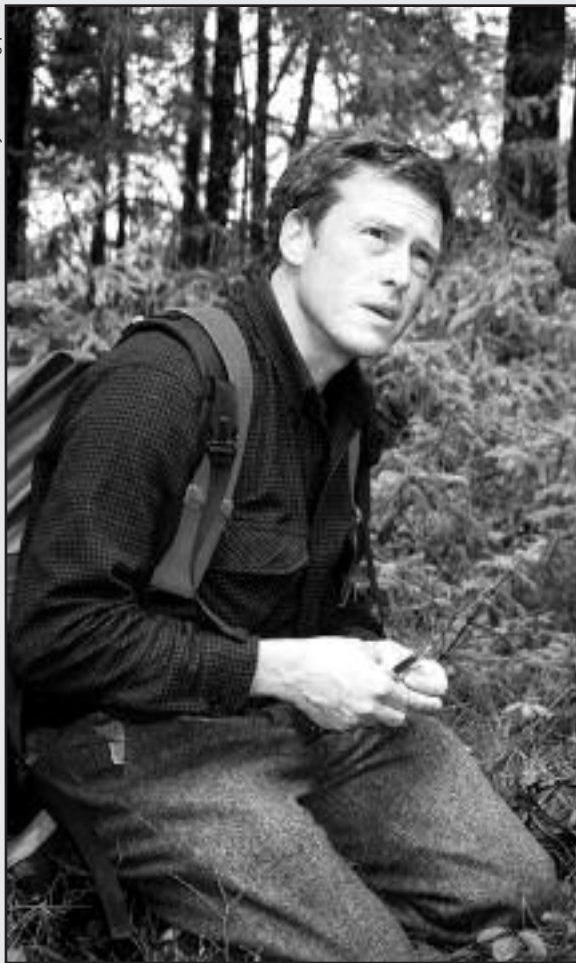
The family requested that contributions be made to help establish a college fund for Andrew's daughter. Checks payable to Maura Weegar College Trust may be sent in care of Abby Holman, 248 North Road, Fayette, Maine 04349.

Wayne Curtis, another Maine journalist, delivered a eulogy for Weegar that noted his old friend's passion and enthusiasm for nature and for conveying its significance, often with a bit of humor.

"The *Maine Times* did us all a great favor when it gave Andrew space for his column for several years. Andrew chronicled the Maine seasons with more detail and vividness than anyone since E.B. White. But more than that, Andrew's column finally answered the question many of us had about where he was when he didn't show up for one meeting or another.

"He wrote once about a high state of distraction brought on by simply knowing that the leafless woods were starting to swell up with pussy willows. So he left his desk to go in search of them down the road, only to attract the attention

Photo courtesy of Lee Bergquist



Andrew Weegar, investigating scat in the woods of Apostle Island National Lakeshore.

of a policeman.

"The officer seemed a little startled to see me hopping out of the woods," he wrote. "It's springtime," I yelled, more than a little too loudly, arms stretched wide.... "Probably you ought to come right down here and pick a few pussy willows..." [The policeman] looked at the no trespassing sign, and then back at me. He shrugged. The season was infectious."

As was Andrew – who not only will be missed but also remembered.

Michael Mansur edits the SEJournal.

Confessions of an SEJ mentoring pair

Editor's note: Member-to-member help has always been an important part of SEJ's mission to improve environmental journalism, and that's what the Mentor Program is all about. The program pairs veteran environmental journalists ("mentors") with less experienced SEJ members ("mentees") in one-on-one partnerships. The primary goal is to help professional journalists who are newcomers to the beat, or who simply want to improve their skills.

To date, the Mentor Program has enrolled 47 mentors and 50 mentees. One of the first mentees to sign up was Frances Backhouse, a Canadian freelance writer who said her goal was to become better at selling environmental and natural history articles to decent-paying magazines. Orna Izakson and Dawn Stover, the program's volunteer coordinators, matched Frances with Jane Braxton Little, a California freelancer with more than 20 years of experience. Here is their story.

By JANE BRAXTON LITTLE
and FRANCES BACKHOUSE

Why we did it

Jane: When Dawn Stover and Orna Izakson asked me to sign up for the fledgling mentoring program, I didn't need to think twice. It was high time I tried to return some of the many benefits I'd gleaned through SEJ. Although I had my doubts about what I could offer another journalist, I was willing to share my experiences. And I confess to an ulterior motive: Contact with another freelancer might help me in my own career. In addition to all these reasons, I agreed to participate in the mentoring program because Dawn and Orna are hard to resist.

Frances: When I applied to the mentorship program in 2002, I had 18 years of professional freelance writing – including numerous magazine stories and two books – under my belt. But with a shrinking and chronically underpaid Canadian market for environmental journalism, it was becoming increasingly difficult to make a living. I needed to cross the international border and I was looking for an experienced American freelancer to guide me into this new territory, someone who knew markets and editors and was willing to share her (or his) insights.

Jane: Once the mentoring program paired me with Frances Backhouse, we launched an e-mail correspondence establishing what she hoped to gain from the relationship and where I felt I could be most helpful. Then we spoke by telephone. It was soon apparent that whatever Frances might get from me I would benefit in equal measure. The bulk of our mentoring relationship continued for eight months by e-mail until we met unexpectedly in an airport en route to the New Orleans conference, where we had

arranged to share a room. It was fun to introduce Frances to the people I had met over the years and watch her take off on her own.

Frances: Jane Braxton Little and I made mutual introductions by e-mail in January 2003 and almost immediately began to develop a sense of camaraderie. Since my primary goal was to land more assignments from American magazines, Jane offered to review some of my recent story proposals. A discussion of the queries' strengths and weaknesses formed the basis for our first phone conversation, in which we also talked about recycling story ideas and finding new markets. We continued the conversation through the spring and summer, exchanging intermittent e-mails to discuss new issues as they arose. We cemented our friendship in New Orleans while canoeing on the Bayou, trading notes on speakers we'd heard and partaking in night-time revelries. Shortly after the conference, Jane sent me an e-mail saying "I've mentally dropped the mentor-mentee relationship for just plain pals who have ideas and experience to share." And that's how it's been ever since.

Jane: Working with Frances generally helped me reassess the processes I have developed for my freelance business. In particular, it forced me to evaluate my own approach to marketing, the least appealing part of freelancing for me. Very soon into our relationship I realized that she could offer me as much advice as a writer as I could offer her. We continue to trade contacts, share information and ask each other questions. It's been a rewarding exchange. I credit the mentoring program with giving me a steadfast colleague and a friend. That leaves me still in SEJ's debt.

Frances: Not long after Jane and I started working together I got diverted from magazine freelancing by the opportunity to write another book. Only now, with the book about to go to the printer, am I finding time once again to focus my attention on landing assignments, so I can't use publication credits to measure the success of this mentorship. The unanticipated benefits have been less tangible and yet equally or more valuable. They range from the comfort of not being alone in a sea of strangers when I attended my first SEJ conference to knowing exactly who to consult about arcane northern California facts. Above all, I've gained a valued friend and colleague who is only an e-mail message or a phone call away and is always willing to answer questions or bounce around ideas, to commiserate or celebrate.

To learn more about SEJ's mentoring program, go to www.sej.org/members/index1.htm or email mentor@sej.org.



Jane Braxton Little (left) and Frances Backhouse



Migrating reporters, awards and books on nature

By ELIZABETH MCCARTHY

Dan Fagin, Margie Kriz, Jim Bruggers, Cheryl Hogue and Sara Shipley are taking on new challenges.

Dan Fagin, former SEJ board president, left *Newsday* at end of May and will study in England this summer as a Templeton-Cambridge Fellow. He then heads to New York University, where he will be an associate journalism professor and help run the graduate program's Science and Environmental Reporting Program.

Leaving daily journalism after two decades was not easy, but the troubled waters in the media sea pushed Fagin to seek out brighter prospects. "Like other papers around the country, *Newsday* is going through a very rough patch, and I'm not sure what the future is here for long-form investigative and explanatory work on complicated topics, including the environment." He hopes to help shape the upcoming generation of science and environmental reporters. Fagin also hopes to have "ample time" to write books and freelance magazine stories of his choice.

Margie Kriz was awarded a Nieman Fellowship at Harvard for the upcoming academic year.

Cheryl Hogue, a reporter with *Chemical & Engineering News* in Washington, D.C., was selected as one of the 2005 environmental media fellows at Vermont Law School. Also selected for the fellowship was **Adam Glenn**, who recently left ABCNews.com to consult for NBC Universal Chairman Robert Wright.

The *Louisville Courier-Journal's* **Jim Bruggers** won a Wood's Hole Marine Biological Laboratory science journalism fellowship. After a science journalism boot camp at Woods Hole in Massachusetts, he heads to Alaska above the Arctic Circle. Bruggers will be working with researchers in a region considered a "scientist's Brigadoon – it comes to life each summer, then largely goes away with the ice and snow."

After working as an environmental reporter for the *St. Louis Post-Dispatch* for three years, **Sara Shipley** left at the end of May for Kentucky. She plans to get marry, freelance and work on a book. Shipley was also a finalist for the Livingston Award in the national reporting category. She was nominated for her piece on the severe health effects of artificial butter used in popcorn and in other junk food. The impacts were especially severe for factory workers, some of whom needed lung transplants.

Tom Meersman, environmental and natural resources reporter for the *Minneapolis Star Tribune*, won this year's American Institute of Biological Sciences media award in the print journalism category. His three-part piece, published in mid-June 2004, focused on the invasive organisms in the Great Lakes.

According to the AIBS, Meersman's story dealt with "a complex subject but was nevertheless outstanding in readability, accessibility, and organization, and it made clear points about how changes in the environment affect habitat."

Defenders Magazine won a silver award for general excellence from the Society of National Association Publications, noted **Bill Updike**, writer/editor for the publication of the conservation organization Defenders of Wildlife. "It's no Pulitzer, but it's the best we have in the nonprofit work," he said.

The Canadian Association of Journalists awarded its investigative journalism award in the community newspaper category to **David Wiwchar**. Wiwchar is managing editor for the Vancouver Island-based *Ha-Shilth-Sa* newspaper. His story looks at an allegedly fraudulent study involving more than 800 vials of blood taken over a three-year period in the 1980s. It was considered the "largest-ever genetic study of a First Nations population in Canada," Wiwchar said.

National Geographic Adventure contributing editor **Paul Kvinta** was a finalist for the National Magazine Award in the reporting category. His piece was about the battle between humans and elephants in northeast India over habitat. The key problems highlighted in his story include deforestation, too many people, ethnic/tribal warfare and government corruption. "Stomping Ground," published in August 2004, will appear in "The Best American Magazine Writing, 2005," produced by Columbia University.

Phyllis Sides, reporter with *Journal-Times* in Racine, Wisc., was elected to the position of Board Member at Large/State for the Wisconsin Black Media Association, a chapter of the National Association of Black Journalists.

David Williams' personal essays about Seattle's natural history were recently published. "The Street-Smart Naturalist's Field Notes from Seattle" includes essays on bugs, botany, geology and geese. Published by WestWinds Press in Oregon, "Field Notes" has its root in Williams' experience as a park ranger, in particular the many questions he was asked by visitors. "I knew that no matter where you lived, the stories of the natural world were just as interesting as any you could find in a national park," Williams said.

The day before the news broke about the reappearance of the supposedly extinct ivory-billed woodpecker in eastern Arkansas, **Frances Backhouse's** book on "Woodpeckers in North America" was headed to press. There was a mad scramble to make the appropriate changes related to the surprise finding but publication of her book was not delayed, she was happy to point out.

"Woodpeckers" is an illustrated natural history that covers the birds' anatomy, conservation and basic biology, including how "woodpeckers avoid brain damage and whiplash when drumming and excavating." Backhouse's book, her third to date, looks at the 28 species, some with ranges extending into northern Mexico.

Mark Neuzil, from the University of St. Thomas in St. Paul, coauthored a less traditional kind of guide. He, with theologian Bernard Brady, wrote "A Spiritual Field Guide: Meditation for the Outdoors." It is a "backpacker's companion with essays and reading from various spiritual and philosophical points of view," he said.

Given that physical weight is a strong consideration for what goes into a pack, the book was sized appropriately. It weighs a half a pound, including the cardboard it is shipped in. "It was designed for a tackle box, backpack, motorcycle saddlebag, etc." Neuzil said, adding, "You could even tear it into pieces."

Media on the Move

If you want to spread the word about a career change, a book you have written and or an award you have won, contact e2mccarthy@cs.com or editorial@californiaenergycircuit.net.



SEJ Awards

Staff handles 2005 entries, questions and moths

By CHRIS RIGEL

April in SEJ's headquarters is almost wholly given to opening, screening and processing 200-plus entries in the Society of Environmental Journalists Awards for Reporting on the Environment. It's a month of all-hands-on-deck with offices buried in shipping refuse, mounds of paper clips, stacks of videos, CDs, paper, paper and more paper.

The 2005 contest attracted 233 entries, with two disqualified for non-payment and one for shipping after the April 1 deadline, leaving 230 entries that needed serious handling before they were sent to judges in early May.

Getting 233 entries open, dated, checked and bundled is no small feat. SEJ's screening committee, Senior Program Associate Carol Nolen and I, began to realize during week two that the job was too big, so we brought in records manager Linda Knouse to help. The biggest time-vampires for Knouse: making additional copies of the entry form and/or cover letter to make the required five; taking the entries apart and putting them back together in the right order, with entry forms on top; and scanning for other problems, like missing payment, incorrect copies of stories or not enough story copies included.

Packages are mostly from the United States, with five from Canada and one from Mexico, but they also came in from China, Croatia, Kenya, South Africa, Switzerland and the United Kingdom. We never know what we'll find in these packages, from great environmental journalism to video cassettes that have been splintered by mail handlers. But the biggest surprise came when Knouse peeled back the strapping tape from one box and two moths flew out. Closer inspection led us to more moths fluttering inside the box and a heavy scattering of pupae. Knouse stuck a mature critter on a piece of scotch tape for show and tell, then wrapped up the box and sent it back for repackaging, *Clemensia albata* (or whatever) and all.

Once the entries are properly bundled, they go to the screening committee, where each entry is screened twice. Screeners (Nolen and I) plug the entry data into a database, contact entrants with a form e-mail, log payments and check the entries for contest compliance. This means checking for the correct number of copies (again), looking for one-page-only cover letters, publication and air dates that meet contest specifications, correct fees, removing all supplemental materials and verifying that the subject of the entry is environmental.

Bouillabaisse

Does a recipe for fish stew qualify as an environmental story? It does if the fish is endangered and a restaurant is under fire for serving it, so a food/dining reporter can be a viable entrant. What about tech writers? (What about tech trash?) Business, real estate, health, religion, sports – pretty much any beat can occasionally come up with a story that is primarily environmental. Getting the attention of reporters outside of traditional environment beats, however, has proven difficult.

Most of the stories are clearly environmental, but some

have to be studied more intently. Occasionally the awards committee co-chairs, Vince Patton and Dan Fagin, need to be consulted on this and other compliance issues. SEJ rules are strict and entries are required to be meticulous. Entry preparation is not too difficult if a reporter is sending in a single magazine or radio story that can be copied easily. The task is more daunting if it's three print entries and each is a four-part print series that must be mounted on heavy paper or cardboard and the news organization entering does not have a designated awards coordinator.

As screeners, Nolen and I communicate with reporters and contest coordinators throughout April in efforts to get entries into compliance with SEJ rules. It may mean asking for a new cover

(Continued next page)

2005 SEJ Awards Judges

Robert Aglow, former executive producer of News Coverage, MSNBC.com

Erik Anderson, KPBS Radio

Len Apar, editor-in-chief, *New York Times* on the Web

Seth Borenstein, Knight Ridder Newspapers

Del Brinkman, former dean, University of Colorado School of Journalism

Marla Cone, *Los Angeles Times*

Brian Duffy, editor-in-chief, *U.S. News & World Report*

Peter Dykstra, CNN

Michael Fields, National Public Radio

Robert Garcia, Washington bureau chief, ABC Radio

Yolette Garcia, KERA-FM

Mark Higgins, *Seattle Times*

Katy Human, *Denver Post*

Stephen Hume, *Vancouver Sun*

Jane Kay, *San Francisco Chronicle*

Gary Lee, *Washington Post*

Peter Lord, *Providence Journal*

Liz Metcalfe, AOL Canada

John Miller, Schieffer School of Journalism at Texas Christian University

Deborah Potter, president and executive director, Newslab

Chuck Quirmbach, Wisconsin Public Radio

Jacques Rivard, former correspondent, Canadian Broadcasting Corp.

Deborah Schoch, *Los Angeles Times*

Angela Swafford, freelance producer and reporter

Michael Tymchuk, CBC Radio

Paul Wagner, WTTG-TV

Duff Wilson, *New York Times*



Awards... (from page 7)

letter or for additional copies, or it may mean sending the entry back for a more radical fixing.

One entrant confided last year that he was grateful and a little surprised that he could amend his entry. In some contests, he said, an entry that doesn't meet the specs is tossed. (He didn't name the contest.) That begs the question of whether the SEJ screening process is too lenient and if staff spends too much time being helpful. Our dilemma, however, is that the reporting we see is so good, so compelling, that we want the judges to see it.

Do other groups have this problem? I asked two: Scripps Howard Foundation and the American Association for the Advancement of Science (AAAS).

You want how many copies?

Scripps Howard tends to get around 75 entries for the Edward J. Meeman award for environmental reporting, according to Judith Clabes, president and CEO of Scripps Howard Foundation. But they are also dealing with 17 other categories of national journalism awards with January deadlines. Only one copy of the entry is required. Clabes said in an e-mail that they are "not at all strict about how the entry is prepared" but that entries must be presented in a way that is easy for judges to read. An entry form must be attached and the deadline must be met. "Otherwise," Clabes said, "everything else is up to the judges."

AAAS garners 331 entries, according to Earl Lane, senior communications officer for AAAS' Office of Public Programs. AAAS staff checks that the entries are correctly prepared, are appropriate for the categories entered and that nine copies are submitted. Lane said that their requirements are quite rigorous and the deadline is absolute. After staff clears the entries, a panel of scientists screen them for scientific accuracy and send them on to a panel of journalists for judging.

SEJ rules are also quite stringent, though the reasons are not always evident to those who must endure preparations. SEJ's contest judges (see sidebar) are not brought to a single location for a weekend of judging as are judges for the Meeman and AAAS contests. Instead, three of SEJ's five required copies are sent to judges in their various locations across the United States and Canada.

Copies must also be kept at SEJ headquarters in case shipping to judges goes astray or copies are damaged in shipping. One set goes to SEJ's annual conference for display. Copies of finalists are also sent out to be included in the Power Point presentation that takes place during the awards ceremony.

Contest organizers planned carefully to require entries that judges could read easily, without loose bits of newsprint that can easily be torn or lost. It is also required of print categories that the copies be legible; it is a judge's prerogative to take an entry out of the running if he or she finds it too difficult to read.

There are many rules and the awards committee keeps trying to find ways to present them in a way that will be easy for entrants to grasp. It will help us if each person who enters takes time to read the requirements carefully and follow them to the letter.

Journalism contests are not easy to administer, but the payoff in bringing attention to excellent reporting is well worth it. The publicity SEJ's contest brings to itself is also a plus, increasing visibility and adding more numbers to the membership than any other program run by the organization.

Our bottom line is that great reporting needs to be seen and not just left to the moths. (That entry, by the way, came back mothless and is in the running.)

Chris Rigel is associate director for SEJ.



Bienvenido... (from page 2)

along with new challenges in transportation, land use and environmental health, have heightened interest in and needs for more vibrant, aggressive and authoritative environmental journalism. Meanwhile, the number of Spanish-language media outlets and the size of their audiences are increasing rapidly in the U.S.. Yet environmental issues are under-reported in Latino communities."

We can be proud that our work to reach out has been noticed. Ernest Sotomayor, then president of UNITY, told Parke, "SEJ's past partnerships with UNITY alliance associations and your consistent work to improve the quality of environmental news reach-

ing audiences over many years has made a significant contribution to journalism."

It's an exciting emphasis and one that deserves your support, whether that is with volunteer time, translation services, spreading the word, offering story tips, inviting new members or making a donation.

Perry Beeman covers the environment for the Des Moines Register.



Environment stories garner top journalism prizes

David Nakamura, a metro desk reporter at *The Washington Post*, was working on a story about a local night club when a caller asked him about something almost unthinkable – lead in his drinking water. The most intriguing part of the upset caller's information was that he couldn't get any city officials to answer his questions, Nakamura said. "This could be a good story for the weekend," Nakamura recalled thinking.

The story on lead in the drinking water of thousands of homes in the nation's capital turned into much more, as Washington residents were alerted that something normally taken for granted as safe – their drinking water – posed a potential threat.

The story won the Seldon Ring Award for Investigative Reporting for Nakamura and a team of reporters at *The Post* who produced more than 200 articles alerting residents to the high levels of lead in their drinking water.

At *The Post*, Nakamura would find that the Water and Sewer Authority, a quasi-government agency independent from the city, had tested 6,000 home pipes for lead levels in 2003 and found unsafe levels of lead in 4,000 homes.

Washington Post journalists **Carol Leonnig, D'Vera Cohn, Craig Timberg, Monte Reel, Sarah Cohen and Jo Becker** reported more than 200 articles alerting local residents to dangerously high levels of lead in tap water.

Their investigation resulted in the firing of James Buford, director of the District of Columbia Department of Public Health, and revealed that water agencies across the country have manipulated or withheld test results that disclose high levels of lead content.

The U.S. Environmental Protection Agency along with fed-

eral prosecutors, environmental officials and state regulators are now investigating whether several water utilities have broken criminal or environmental laws by misrepresenting the lead levels in their drinking water.

"*The Washington Post's* work was a very important piece of journalism – important to every man, woman and child living in the District of Columbia, drinking its water and thinking it was pure. And it was important to the residents of other cities whose water is contaminated by lead and other toxic substances," said Michael Parks, the Pulitzer Prize-winning former editor of the *Los Angeles Times* who now serves as director of USC Annenberg's School of Journalism.

The \$35,000 Seldon Ring Award, presented by the School of Journalism at the USC Annenberg School for Communication, recognizes the year's outstanding work in investigative journalism that led to direct results.

Another environment series would reap a top journalism prize for **Tom Philp**, an editorial writer at the *Sacramento Bee*, whose editorials championed the restoration of the Hetch Hetchy Valley in California.

Philp's series of editorials at *The Bee* explored in detail the possibility of restoring the Hetch Hetchy Valley, which was flooded when Congress approved a measure in 1913 to allow it to be dammed to provide water for San Francisco.

He noted in editorials throughout 2004 that studies have shown the valley could be restored without causing problems for San Francisco. As a result, Gov. Arnold Schwarzenegger's administration has agreed to examine the idea.



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or call (215) 884-8174.

Research News Roundup

Reporters debate use of risk and follow EPA's lead, studies show

By JAN KNIGHT

Risk assessment not a favored angle of U.S. environment reporters, nationwide study shows

Research suggests that environment reporters need to focus more on explaining the scientific assessment of risks associated with pollution and other hazards, but that traditional news values prompt journalists to focus on elements such as proximity, human interest and conflict, and deadlines often mean focusing on the immediate. This combination may have led to criticism that the news media unduly sensationalize risks associated with environmental problems.

But how do environment reporters view their work? Do they feel that they and/or their colleagues sensationalize risk? Do they consider risk assessment when they report on and write their stories?

Three communication researchers aimed to answer these questions in nationwide interviews with environment reporters about their work. They interviewed 354 environment reporters in New England, the Mountain West, the Pacific Northwest and the South (a total of 28 states) during a period that spanned four years, from 2000 to 2003. Among other things, the researchers wanted to know whether environment reporters used risk assessment as a story angle.

In all four regions, reporters told the researchers that they used risk assessment as the main story angle less than other angles, such as human interest, government, pollution, nature or wilderness, ranking it last of nine angle types in all four regions. But also in all four regions, they told the researchers that they often or sometimes included a risk assessment angle in their stories, which seems to differ from the past, according to the researchers.

Further, reporters were more likely to include a risk assessment angle when reporters used the U.S. Centers for Disease Control and Prevention as a source in their stories. And in all four regions, reporters using a health angle in their stories were more likely to also use a risk assessment angle.

The reporters disagreed that environment reports exaggerate risk, but in some regions they said that stories about environmental problems receive more play than stories about environmental successes and that reporters focus "too much on problems and pollution, rather than writing stories to help the public understand research or complex issues."

The researchers' report includes details about environment reporters in all four regions, including average age, years covering the environment, job title and sources used most and least often.

The researchers concluded that, among other things, their findings hold practical advice for scientists who want to better understand how journalists cover risk. For one thing, the environment reporters interviewed for this project often used a human-interest angle in their stories. "If scientists can focus, in part, on the people affected by risk, they might build greater journalistic interest in a risk assessment study," the researchers suggested. "Since environment reporters use risk assessment in their stories less often than other angles, scientists who wish to have risk studies covered may be well advised to offer journalists more attractive news pegs."

For more information, see David B. Sachsman, James Simon and JoAnn Myer Valenti, "Risk and the environment reporters: A

four-region analysis" in *Public Understanding of Science*, October 2004 (Volume 13, No. 4), 399 – 416.

News reports followed EPA's lead in framing story of dioxin-polluted river, study shows

Reporting on human health risks from pollution is a challenge for reporters as well as a focus of communication research. Many researchers believe that risk is "socially constructed" in a competitive interplay, with governments, industries, activists and other groups jockeying for their views to become the dominant way to define risk in the articles that journalists write and broadcast.

Sociologists recently explored this idea, wondering why Rhode Island residents did not mobilize when news broke that a local river was polluted with dioxin. They examined the relationship between the U.S. Environmental Protection Agency and the local news media for clues.

They found that news coverage of the river closely followed EPA press releases. Moreover, the news media closely followed the agency's way of framing risks associated with the contamination.

The researchers concluded that the EPA followed a strategy known as the "prudent public model" of risk communication. This strategy aims to downplay risk, maintain public trust and, as a result, discourage citizen activism, according to the researchers. The approach aims to reverse an older strategy known as the "ignorant public model" exemplified in Love Canal, where officials were slow to provide answers about risks associated with toxic waste and excluded residents from decision-making. But Love Canal residents mobilized and, as one consequence, received news coverage that forced government and industry into a "reactive" position, the researchers wrote.

In Rhode Island, however, a different situation occurred, according to the researchers.

On Jan. 14, 1999, the *New York Times* ran an article about exceptionally high levels of dioxin in and along Rhode Island's Woonasquatucket River. That same day, the EPA circulated a press release about the problem. Through March 1999, the EPA issued seven more press releases and then circulated one press release a month from the end of March through December 1999 and six press releases between January 2000 and November 2001.

The EPA press releases framed the Rhode Island river contamination in a way that depicted the agency as "sensitive to the public's knowledge and concerns and as a trustworthy champion of environmental and public safety," the researchers wrote. The EPA also portrayed the problem as embedded in the history of the area (a chemical manufacturing plant opened there in the 1940s), as easily solvable by science and as presenting minimal risk to residents.

Meanwhile, the *Providence Journal* followed 15 of the EPA press releases with next-day coverage. The articles included quotations from press releases and quotes from the EPA spokesperson named on each press release. Its coverage pattern closely matched the pattern of EPA press releases – 12 articles about the contamination ran between January 1996 and January 1999; 39 articles from Jan. 13, 1999, through February 1999; and about five articles a month from March through May 1999 and two arti-

(Continued on page 12)

Habitat conservation plans little scrutinized by media or government

By ROBERT McCLURE

The federal government is handing out licenses to kill endangered species.

That stark statement kicked off a recent *Seattle Post-Intelligencer* series, "A License to Kill." While we took a national look at so-called "habitat conservation plans," there are tons of great stories to be done on this phenomenon in nearly every state.

What started out in the 1980s as a trickle of efforts to balance endangered-species protection with logging and development has ballooned to a massive but little-scrutinized program. More than 400 habitat conservation plans (HCPs) have been authorized, mostly since the mid-1990s and largely in the West and South. They collectively cover an area as big as Illinois.

The concept behind those plans: If developers, miners, loggers and others do enough good for a species, the U.S. Fish and Wildlife Service or National Marine Fisheries Service can authorize killing or harming a certain number of individual animals. It's a concept politicians of both parties love and that some big environmental groups endorse. But numerous shortcomings lie beneath this happy surface.

Based on an experiment at San Bruno Mountain, near San Francisco, Congress authorized the program in 1982 amendments to the Endangered Species Act. Since then, the balancing act has been left to the agencies.

Some criticisms we highlighted are the length of the plans – many span decades – and the guarantee of "no surprises" that typically is given to the landowner saying no additional acreage or money can be required to help a species. These are compounded by poor knowledge about many species and the frequent paucity of involvement by the public or independent scientists.

It's worth your while to read the legislative history. (To find it, consult a government documents librarian.) There's a key line in which Congress told the agencies to consider "the extent to which the conservation plan is likely to enhance the habitat of the listed species or increase the long-term survivability of the species or its ecosystem."

Colleague Lisa Stiffler and I analyzed 98 HCPs, including all of them bigger than 100 acres done in recent years. We used a questionnaire adapted from another large study of the plans in the late 1990s by the National Center for Ecological Synthesis and Analysis.

Our conclusion: Consideration of improving habitat and a species' chances of surviving is getting short shrift. Amazingly, the federal government has never analyzed this 23-year-old program to see whether it is, in fact, helping preserve imperiled species or hurting them. Nor has Congress asked for such a report.

About three-quarters of the plans we studied had no provisions to rescue a species if it gets in trouble under the plan. The same proportion had no provisions to gauge whether the good deeds – the "mitigation" – were making a difference to the critter.

The deals range in size and complexity from a fraction of an acre for a house to a 10.9-million-acre, 30-year plan for Georgia woodpeckers.

While the program in the 1990s concentrated on small- to medium-sized plans for private landowners, another model is emerging. Here, the government takes on the task of getting a habitat conservation plan on behalf of developers or timber companies.



A young Douglas Fir tree planted by Plum Creek Timber company grows in clearcut near Taneum Creek in the Cascade Mountain near the town of Cle Elum, Wash..

Photo courtesy of SEATTLE POST-INTELLIGENCER

These demand a close look simply because of their size and scope.

We found sparse news coverage of these deals, many of which are virtually on autopilot with minimal regulation by the

(Continued next page)

Research roundup... (from page 10)

cles a month from June 1999 through June 2000, for a total of 90 news articles, according to the researchers.

Twenty-eight percent of 359 quotations in the news articles came from EPA representatives, 18 percent from other government agency representatives, and 46 percent from politicians (including 11 percent from the mayor of North Providence) – that is, government officials were quoted more often than any other source. They also found that the news articles framed the issue using EPA terms: the problem was linked to the river's history, science could easily solve the problem and risk was minimal.

News coverage possibly followed the EPA's take on the issue because, the researchers wrote, citizens did not organize into an activist group, diluting their ability to "compete" with the EPA to frame the issue. Individual citizens may lack the legitimacy organized action groups possess or earn in the media's eyes, the study suggested. Meanwhile, individual citizens' concerns, such as contamination spreading to a children's ball field on the riverfront, largely were omitted in news coverage. In turn, this meant that residents who did not attend public hearings might not be aware of frames that countered the EPA's perspective.

Further, research shows that reporters tend to use established

sources such as government and elected officials, leading to media reports that reflect mainstream frames, rather than frames emerging from outside of it, the researchers wrote. In the case of the contaminated river, they wrote, there was no countermovement to the EPA's coordinated effort to frame the issue and the news reports thus appeared "in collusion" with the EPA strategy.

"Under pressure to maintain a regulatory atmosphere conducive to economic growth, the strategy of many agency officials has been to downplay risks that might be expensive to remediate," they concluded. "Controlling public perception of risk increases the chance of public acceptance of the preferred, and often most economical, remediation approach."

For more information, see Stephen Zavestoski, Kate Agnello, Frank Mignano and Francine Darroch, "Issue Framing and Citizen Apathy Toward Local Environmental Contamination" in *Sociological Forum*, June 2004 (Volume 19, No. 2), pp. 255 – 283.

Former editor and reporter Jan Knight is assistant professor of communications at Hawaii Pacific University in Honolulu.

HCPs... (from page 11)

government. There are some great stories to be had. You might start by finding HCPs near you and doing a little reading.

Helpful documents:

- HCP: The plan should detail what "mitigation" will be offered and how it will be funded.
- Biological Opinion: The agency's justification for doing the deal. It is supposed to spell out (in the incidental take statement, usually near the end) exactly how much this will harm the species in question. Many do not. There's a lot of biology in BiOps, but they are often the best summary of a plan.
- Environmental Impact Statement: Compares alternatives considered. Awfully repetitive of the HCP and BiOp, but they sometimes provide data not found elsewhere.
- Implementing Agreement (required only for some HCPs): This is a legal contract, a handy way to find out without a lot of reading who is responsible for doing what.
- Findings: Agencies answer public comments about the deal. Often quite revealing.
- Incidental Take Permit: What applicants are after. It's the license to kill or harm – "take" is the legal term. It should spell out exactly how the holder is allowed to harm the species. This is also where the agencies can impose special conditions.
- HCP Handbook: Worth perusing if you're doing substantial

reporting. These are the rules of the game, though they're not always followed.

- Monitoring Reports: Most plans must report annually or semi-annually. While the reports are usually filed, the agencies admit they don't always read them carefully. You should.

Questions to ask:

- Do the applicants and the agency have a good handle on the biology of a species, and how the HCP will affect its overall population? The standard is that the HCP must not "appreciably reduce the likelihood of survival and recovery" of the species.
- Are there criteria to determine whether the mitigation is working – that is, whether it's actually helping the species?
- Does the plan have any provisions to help reverse the decline of a species if it's in trouble under the plan?
- Is monitoring done as required?
- Most important: Is there any evidence the plan has helped the species?

Relevant websites:

www.seattlepi.com/specials/licensetokill
http://ecos.fws.gov/conserv_plans/public.jsp (Government database of plans)
www.aibs.org/books/resources/hcp-1999-01-14.pdf (NCEAS report)
www.nossaman.com/db30/cgi-bin/news/RDTHabitatConservation.pdf (Brief treatment by lawyer Rob Thornton, a prime architect of the HCP program.)
www.natureserve.com (Information on species.)

Need FOIA information?

Go to www.sej.org

Robert McClure covers the environment beat for the Seattle Post-Intelligencer.

A guide to the most useful databases and websites on the environment

By RUSS CLEMINGS

One guiding principle of investigative reporting is to develop a documents frame of mind. In other words, whatever the subject, remind yourself somewhere there must be a relevant document.

Take this idea one step further and you may also want to develop a database frame of mind. Somewhere there is a database where all of those documents are collected and summarized. Your job is to find that database, analyze it and, where appropriate, use it as a guide to underlying documents that deserve more attention.

Here is a quick guide to some of the most useful environmental data sources – some familiar favorites, and some you might not have heard of before.

As you read it, keep in mind that the federal government is not the only source of environmental data. EPA and other agencies frequently delegate primary enforcement and data collection responsibilities (called “primacy”) to states. For example, all states and territories except Wyoming and D.C. have primacy for drinking water programs under the Safe Drinking Water Act. Unless you need data from multiple states, you may find it faster and easier to get data directly from the state.

Here are some pointers from EPA on getting state data: www.epa.gov/echo/more_state_data.html.

Further, although some data is readily available from agency web sites, formal requests under FOIA or state public records laws may be needed to get other data or entire datasets. For guides to using both, see the FOIA section of SEJ's home page, www.sej.org/foia, and the Reporters Committee for Freedom of the Press www.rcfp.org, especially the sections on electronic records.

EPA's master list of databases, with more than 200 entries: www.epa.gov/epahome/abcddata.htm

If you can't find something here that nobody else has worked with, you aren't trying.

Collections of data from multiple EPA systems:

- Envirofacts (query and map data from EPA systems dealing with waste, water, toxics, air and other topics): www.epa.gov/enviro/

- Enforcement and Compliance History Online (ECHO; retrieve inspection, violation and enforcement data across multiple EPA systems): www.epa.gov/echo/index.html

Some individual EPA databases (for the complete list, see the master list above):

- AirData (air pollution monitoring data): www.epa.gov/air/data/index.html

- Air Facility System (compliance and permit data for stationary air pollution sources, such as factories): www.epa.gov/compliance/data/systems/air/afssystem.html

- Biennial Reporting System (data on facilities that handle or manage hazardous waste): www.epa.gov/enviro/html/brs/

- Substance Registry System (EPA's central repository of data on chemical health and environmental effects): www.epa.gov/srs/index.htm

- Facility Registry System (master list of facilities subject to

EPA regulation): www.epa.gov/enviro/html/fii/index.html

- Grants Information and Control System (master list of entities receiving EPA grants): www.epa.gov/enviro/html/gics/gics_query.html

- Permit Compliance System (water pollution discharge permits): www.epa.gov/enviro/html/pccs/index.html

- Safe Drinking Water Information System (monitoring and enforcement data for public drinking water systems): www.epa.gov/enviro/html/sdwis/sdwis_query.html

- Toxics Release Inventory (reports of toxic chemicals released to air, water and other media): www.epa.gov/tri/

Other sources of EPA data:

- OMB Watch's RTK-Net (easy place to download big chunks of TRI and other major EPA databases): www.rtk.net/

- Environmental Defense's Chemical Scorecard (user-friendly system for looking up EPA data and related information): scorecard.org/

Data from other agencies:

- Nuclear Regulatory Commission (inspection reports, enforcement actions, etc.): www.nrc.gov/info-finder.html

- National Library of Medicine's TOXNET (repository of data on health effects of chemicals): toxnet.nlm.nih.gov/

- U.S. Fish and Wildlife Service National Wetlands Inventory: www.nwi.fws.gov/

- USFWS Endangered Species: endangered.fws.gov/

- NASA's Global Change Master Directory (more than 15,000 descriptions of earth and environmental science data sets and services): gcmd.nasa.gov/

- U.S. Coast Guard National Response Center (oil and chemical spill reports and data): www.nrc.uscg.mil/foia.html

Other places to look for environmental data:

- SEJ's Useful Links: www.sej.org/resource/index4.htm

- NICAR's database library: www.ire.org/datalibrary/

Find expert help:

- Media Resource Service: www.mediaresource.org/

- ProfNet: www.profnet.com

Catch up on the news:

- SEJ's Environmental Journalism Today: www.sej.org/news/index2.htm

- Environmental Health News: www.environmentalhealthnews.org/

- Environmental News Network: www.enr.com

- Grist magazine: www.grist.org

- *High Country News*: www.hcn.org

- Tidepool (Pacific Northwest news): www.tidepool.org

- Headwaters News (Rockies): www.headwatersnews.org/



Russ Clemings reports for the Fresno Bee.

Biomonitoring

Data about chemicals inside us may wield broad influence

By CHERYL HOGUE

Biomonitoring – the measurement of chemicals in bodily fluids and tissues – is finding more and more applications in regulatory policy, lawsuits, and research.

It also makes for compelling journalism. The *Oakland Tribune's* recent series “A Body’s Burden” (see Inside Story on Page 1) demonstrates how biomonitoring is providing more information on the industrial chemicals that are inside us.

Techniques for identifying chemicals in people are improving rapidly, tests are getting cheaper to run and labs are able to detect increasingly minute concentrations of commercial compounds.

The science is hazy on what low chemical levels in our bodies ultimately mean for our health. Nonetheless, biomonitoring information has the potential to powerfully influence how our society views and controls industrial chemicals.

Use of biomonitoring in the environmental field stretches back many years. Federal agencies monitored the amount of lead in children’s blood to track the effectiveness of phasing out lead additives from gasoline. They found blood-lead levels fell as the nation’s gasoline supply was weaned of tetraethyl lead. Biomonitoring is a way to check, albeit indirectly, that the gasoline policy is meeting its goal of preventing neurological damage in U.S. children from lead in the air they breathe.

Information is growing rapidly about chemicals found in the U.S. population, in part due to work by the federal government.

The Centers for Disease Control and Prevention checks for chemicals in the blood and urine from about 2,000 people participating in its ongoing National Health and Nutrition Examination Survey. CDC’s third National Report on Human Exposure to Environmental Chemicals is expected out by mid-2005. It will include biomonitoring data on 148 substances, up from 116 chemicals covered in the 2003 report. The new report

will be the most extensive evaluation of the U.S. population’s exposure to chemicals.

For information on these CDC reports, including a list of the chemicals covered, go to www.cdc.gov/exposurereport/default.htm.

Perhaps the area where biomonitoring may make its biggest splash soonest is in the legal arena. Biomonitoring data increasingly are finding their way into lawsuits against companies claiming people were harmed by industrial chemicals.

Attorneys for plaintiffs are beginning to argue that companies that manufacture and use commercial compounds are “trespassing” on individuals who unknowingly wind up with the substances in their bodies. A lawyer may also contend that people with high levels of a toxic chemical in their bodies but don’t have a medical con-

dition linked to exposure – at least not yet – suffer emotional distress.

Meanwhile, biomonitoring offers a quantum leap for epidemiologists – scientists who investigate suspected patterns of disease – in determining who has been exposed to a chemical and the degree of exposure.

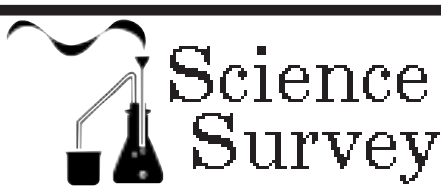
Until these techniques became available, researchers would ask people how far they lived from a factory that released a chemical. Plant employees might be questioned about their activities in the plant and about their proximity to high-exposure areas of the workplace. Biomonitoring gives researchers a more accurate tool for determining which people have the highest levels of exposure to a chemical, regardless of how far they worked or lived from the point where the substance was released into the environment.

In addition, environmentalists are beginning to use biomonitoring data to make a case for tighter control and more testing of industrial chemicals. The Environmental Working Group is especially active in this area, and has materials on the Web at www.ewg.org/reports/bodyburden/index.php.

Not surprisingly, chemical manufacturers are revving up their defenses in the face of growing stacks of biomonitoring data showing their products are widespread in the population. They are particularly afraid that biomonitoring data will lead to more stringent regulation of chemicals. Their main message is this: just because a toxic chemical is in your body at low levels doesn’t mean you’re going to get sick.

The American Chemistry Council, the industry association of large chemical manufacturers, is sponsoring a biomonitoring website aimed at journalists, policymakers, and the public: www.biomonitoringinfo.com.

The association gave a grant to the non-profit Environmental Health Research Foundation to run the site. The council also offers its own take on biomonitoring at www.accnewsmedia.com/site/page.asp?TRACKID=&VID=1&CID=251&DID=952.



AAAS adds category to annual science journalism awards

For the first time since 1945, the American Association for the Advancement of Science (AAAS) has added a new award to its annual science journalism awards. The category is for children’s science news and is open to journalists worldwide for work distributed via any medium — print, broadcast or online. The prize will recognize excellence in reporting news on science for children, including young teens.

The international contest is open to all categories of media: large newspapers, small newspapers, magazines, television, radio and online. The contest year is July 1, 2004, to June 30, 2005. Items exclusively concerning health or clinical medicine are not eligible. The deadline is Aug. 1.

For details, visit www.aaas.org/sjawards.

Cheryl Hogue reports for Chemical & Engineering News.

A Gravedigger quest

This “best” story source doesn’t say a word

By BEN RAINES

With an obscure scientific paper serving as my treasure map, I pulled off the road next to the sewer treatment plant and plunged into a narrow sliver of tupelo gum swamp a tenth of a mile from Interstate 10.

The swamp lines a small, heartbreaking creek that is so often rank with raw sewage that people joke about rolling their windows up when they drive over it. It is the last place you would imagine finding something rare or beautiful.

It is also the last place a diminutive crawfish called the rusty gravedigger was seen, indeed, the only place it has ever been seen.

After making a couple of posts on the SEJ list detailing my adventure with the gravedigger and another rare species I captured last year, I was asked to give my thoughts on finding lost things and covering the natural world.

It comes down to this: Know where you live, and pay attention to what’s going on around you.

For most beats, reporting is simply a matter of talking and listening. Often, the reporter’s job is as much stenography as anything else. You cover the governor, you get to know his press secretary. You cover cops, you get to know the public information officer. You listen to their side. You listen to the other side. You put it in the paper. But covering the environment is different.

The best source for our beat doesn’t say a word. But at the same time it can tell you most everything you need to know.

I stumbled across a mention of the gravedigger while researching Alabama’s 74 native crawfish species (that’s a lot if you know California has only nine species, and Louisiana a mere 37) for a story about diversity. An international database reported that D’Olive Creek in Daphne, Ala. was the gravedigger’s only known home. I drive over the often foul creek every day on my way to work.

For days after a rain, D’Olive runs brown with silt from all the new subdivisions being built upstream. It’s been that way for decades. Photos taken from the Skylab space station in 1974 show that even back then, D’Olive dumped more sediment into Mobile Bay than either the Alabama or Tombigbee rivers, which together drain almost the entire state of Alabama, as well as parts of Georgia and Mississippi. D’Olive Creek drains a 12-screen cinema, a TJ Maxx and a Home Depot.

I called U.S. Fish and Wildlife. They told me the creature was almost certainly extinct.

With a little prodding, my editors agreed to give me a day to look for it. The swamp was full of crawfish burrows, easy to spot due to the mud chimneys swamp-based species build at the mouths of their underground homes. There was also an alligator

in the swamp, a 10-footer, plenty big when you are sharing the banks of a creek that’s barely 20 feet across. I saw a cottonmouth in there, and a couple of harmless brown water snakes.

With one eye on the ’gator, I found plenty of crawfish that first day, but none of them in the distinctive red color described for *Cambarus milto*s (translates as red earth). Using crawfish identification keys available on the Internet, I was able to figure

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out the species I caught while I was still out in the swamp.

No gravediggers after 10 hours of dip netting and “fishing” with chicken necks tied to strings for bait. But I couldn’t quit looking. It was just too sad to drive over the creek each morning. Plus, I love to crawl around swamps in the springtime. So I kept hunting, both before and after work. Every crawfish scientist I called was eager to help. So was my 8-year-old son Jasper.

One scientist told me how to modify minnow traps and suggested baiting them with cat food or sardines. Another sent me homemade traps constructed of PVC pipes and paper clips. An endangered species specialist with Fish and Wildlife told me to thrust my hand deep into one of the underground crawfish burrows, open my hand and wait until I felt a crawfish crawl onto my palm. That didn’t work either.

After two weeks of searching on my own time, a package arrived at work from the endangered species guy. It contained the late Joe Fitzgerald’s original scientific paper describing the new species. It also revealed that the creature was nocturnal, land-based, and exceptionally small, with mud chimneys just 2 to 3 inches tall over its burrow, versus 6 to 12 inches for most species. Fitzgerald hinted that the creatures were hard to catch and that none of the methods I had used would work. He wrote that he found them under the bridge I drive over every day. They wandered above ground at night. In the late 1970s, he estimated the entire population at about 25 individuals.

I hadn’t looked under the bridge. When I did, I discovered that the entire area had been covered in granite rip rap. But during my earlier explorations, I had found a bunch of small chimneys on a little island about 150 feet upstream. I set a couple of traps.

I went in that night, cloudy and misty and a little cool for May in Alabama. The first order of business was to find the alligator. I shined my flashlight on the opposite bank. He wasn’t there. I shined over the dark water and found him, eyes lit up like red bullet holes in the night.

(Continued next page)

Gravedigger... (from page 15)

I'd hear if he came up on the bank I was on. I checked the traps – empty – and crept around the island, looking for crawfish wandering above ground. I didn't see any. Then, just as I was about to wade through a shallow slough on my way out, I shined straight down a small chimney. All I could see was the tail, unmistakably bright red, the color most crawfish turn when you cook them. I was certain it would escape down the burrow if I tried to catch it.

Still, I broke the chimney off and the crawfish miraculously

to the group and came upon Wilson – whom I had met a couple of times previously – lying on the ground staring at the sky. I told him about the crawfish, and the opossum pipefish I caught a few months later, apparently the first one seen in Alabama or Mississippi in 30 years.

He was tickled, and told me a story I'd never heard before. It was about the fire ant. Wilson was the first person to correctly identify the invasive pest in the United States, back in the early 1940s, when he was a teenager living in Mobile and delivering copies of the newspaper I work for today.

That much is well known. The detail I had never heard before was the central role the paper had played in his discovery. What first drew his attention to the fire ant – which had only just arrived in this country after hitching a ride into Mobile on a Brazilian ship – was a linotype operator at the *Mobile Register*.

"That guy was just crazy about the fire ant. He was telling everybody it was eating up the plants and bird eggs and everything else... He even wrote columns about it in the newspaper, saying it was new and it was a big problem. He didn't know where it was from, but he was right about everything," Wilson said. "After I got to know him, I was able to work backward and figure out that I had first seen the fire ant in front of my house when I was 13. Then we were able to trace the expansion of its range over time."

And here's one last story about keeping your eyes open, this one about a bird.

A few days after a trip into the field to look at least terns with one of our state bird guys, I thought I spotted a group of the swallow-sized birds wheeling around over the grocery store. The birds, which are fairly rare in many places due to a lack of suitable nesting and breeding sites, are seldom found far from the water where they hunt. The grocery store was about two miles from Mobile Bay, the nearest water body.

I stood there in the parking lot for a few minutes and saw a tern fly in from the direction of the bay with a minnow in its mouth. It appeared to land on the flat roof of the store. I asked the manager if I could take a look on the roof. He said sure, that there was nothing up there but a bunch of air conditioning units and some birds.

When I got out on the roof, there were several hundred pairs of terns nesting. The pebble-covered roof was perfect habitat as the birds typically nest in shallow depressions scooped out of sand along river banks or beaches. A photographer and I spent the next day on the roof watching the birds. We saw several hatch right before our eyes and were even able to watch individual birds leave their mates, fly to the bay and return to their partners with silvery glass minnows in their mouths. After the story ran, people called in with reports of seeing terns near malls and groceries all over town.

So keep your eyes open, and remember that Dr. Wilson's Pulitzer-Prize-winning career got a shove in the right direction after a newspaper linotype operator noticed an ant he'd never seen before.

Ben Raines covers the environment for the Mobile Register. He can be reached at braines@mobileregister.com.

Photo courtesy of THE MOBILE REGISTER



The rusty gravedigger hangs with 'gators – and Ben Raines.

stayed put, its whole body suddenly visible in the fist-sized hole I had created. I made a grab and somehow caught it. It pinched, but I didn't let go.

I believe there are a lot more gravediggers in the creek. Judging by the number of diminutive chimneys on the island and further upstream, I'd say there are certainly a lot more than Fitzgerald's original guess of 25. The truth is, I didn't do anything so special. I just went looking in the last place the crawfish had been seen.

Plenty of folks were willing to help anyway they could. The scientists said the gravedigger is likely one of the rarest creatures in Alabama, but there was little hope for listing it as a threatened species.

A few weeks ago, I was lucky enough to be in the woods with the great ant scientist and sociobiologist E.O. Wilson during an expedition on the Alabama River. (If you haven't read his book, "The Naturalist," you should.) I was late catching up

Medicated rivers

U.S. waters hold drugs untested for environmental impacts

By PAUL D. THACKER

In the late 1990s, researchers started to get some weird instrument readings while searching for the herbicide mecoprop in the rivers and streams of northern Europe. As it turns out, the machines were fine, but their findings were rather stunning. The funny results were caused by another chemical with a very similar structure to mecoprop – the cholesterol lowering drug clofibrac acid.

Later studies found clofibrac acid in just about every waterway in Europe – not just the big rivers flowing through urban centers, but even apparently isolated mountain streams. The contamination levels were quite low and probably not of concern, but when scientists searched for other drugs, they quickly found them as well. A later study by Thomas Ternes of the Institute for Water Research and Water Technology in Wiesbaden, Germany, found 30 out of the 60 drugs he searched for in sewage treatment plants and rivers.

These results pushed American scientists to begin looking for pharmaceuticals in our own waters. Of course, they should have known the drugs were there. As far back as the early 1980s, scientists with the U.S. Environmental Protection Agency examined the sludge at a sewage treatment plant and discovered aspirin, caffeine and nicotine. But the results were disregarded as an anomaly.

While America still lags behind the Europeans in this area, with just a few years of research, we already know that a whole medicine chest of pharmaceuticals flows in our streams and rivers. If you consume it, your body will later excrete it.

Even more shocking, these drugs often survive drinking water disinfection and come out of our kitchen tap. Most U.S. research is conducted by the U.S. Geological Survey (USGS), and its concern is figuring out which contaminants are in the rivers and if the levels are potentially harmful. Nothing dangerous has been found so far, but to give an example of the difficulties these researchers confront, take the case of a commonly prescribed antiepileptic, carbamazepine.

There is nothing special about carbamazepine, one of many drugs you can detect in most local streams. In a sampling of 44 river sites from across the United States, researchers from the USGS found an average carbamazepine level of .06 parts per billion (ppb) in water, but 4.16 ppb in the river sediment. This same study found an average carbamazepine level of 20.9 ppb in the solids of sewage treatment plants that discharge effluent back into rivers. This research is not yet published.

Pharmaceuticals can access the environment through a variety of channels, but the vast quantity gain entrance after a toilet is flushed. Wastewater treatment plants have a variable effect in degrading drugs, and when the effluent is routed back to a river, fish begin swimming in Tylenol, Sudafed and Prozac.

It is impossible for scientists outside the FDA to perform a true environmental analysis because much of the information

on pharmaceuticals is proprietary. Companies submit anticipated production and sales figures to the FDA during a new drug application (NDA), but this information is then withheld from the public to protect the company from competitors. This makes it impossible to determine how much is likely entering the environment.

“In the 1970s the Federal Drug Administration considered

A whole medicine chest of pharmaceuticals flows in our streams and rivers. If you consume it, your body will later excrete it. Even more shocking, these drugs often survive drinking water disinfection and come out of our kitchen tap.

itself a medical agency and was not concerned with effects on the environment,” said Florian Zeilinski, an FDA chemist who works on the environmental assessments of drugs. Zeilinski said that change began in 1969 after passage of the National Environmental Protection Act. However, it was not until the late 1980s that FDA began requiring companies to submit environmental risk data, with the regulations being finalized in 1998. This means that drugs approved before this date might have never been evaluated for their impact to the environment.

“I don’t know if any of the old drugs have been tested,” Zeilinski said.

Carbamazepine was first put on the European market as Tegretal in 1964 by West German manufacturer, Geigy, and was later brought to the United States as Tegretol in 1968. It has been sold under a number of brands, including Mazepine (Canada), Timonil (West Germany) and Stazepine (Poland). According to the FDA’s Orange Book of approved drug products, 12 companies now manufacture carbamazepine in the United States under the proprietary names Carbatrol, Tegretol, Teril and Epitol. Tegretol-XR, an extended release formula from Novartis, came on the market in the 1990s.

The FDA has approved carbamazepine for treating epileptic seizures and trigeminal neuralgia, a condition that causes stabbing pain to the jaw or cheek. However, looking at the incidence of these conditions will not even give you a rough estimate of carbamazepine use. The drug is also used “off label” to treat bipolar depression, excited psychosis, mania and alcohol detoxification in Scandinavia.

Lynn Roberts, a professor of geography and environmental engineering at Johns Hopkins University, has collected some information on prescription sales in the United States and calculated that production has ranged from 43,000 kilograms (kg) in 2000 to 35,000 kg in 2003.

Roberts has been unable to get data on brand name carbamazepine since 1999, when sales were \$93 million. That same year \$67 million of the generic carbamazepine were sold. These numbers do not include imports from Canada.

(Continued next page)

Rivers... (from page 17)

The range of risk

The environmental risk of a drug is determined by first evaluating the fate of the drug by examining its physical and chemical properties. "You're trying to figure out if the drug is going to end up in the air, land or water," says Zeilinski. Tests are then done to study the effects on species. In the case of the drugs that end up in water, this can mean toxicity tests in fish, daphnia and bacteria.

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But under current regulations, a company can get a "categorical exclusion" and not have to perform an environmental assessment if they manufacture less than 40,000 kilograms a year. "Forty thousand kilos, correlates to about 1 ppb in the aquatic environment," says Zeilinski. He adds that this assumes that the drug is spread uniformly across the United States.

A categorical exclusion does not take into account the input from multiple companies that might all be making the same drug. For instance, if 10 companies are manufacturing a drug at 30,000 kilos each, for a total of 300,000 kilos, environmental assessments still are not triggered. Even if one compa-

ny surpasses the 40,000 kilos, that company's environmental assessment would not take into account production from other companies.

The new drug application (NDA) for Tegretol-XR (carbamazepine extended release) contains metabolic studies that shed light on the environmental risks. Novartis reports that about 3 percent of the drug passes completely through the body and into the urine and lists the standard dosage in adults as 800-1,200 mg

daily, although dosage may reach as high as 2,000 mg daily. The therapeutic dosage for trigeminal neuralgia is slightly lower. At a dosage of 1,200 mg, this means that a single patient excretes a daily dose of 36 mg of carbamazepine into the environment.

Pharmaceutical companies must submit data on toxicity. The acute toxicity of carbamazepine is

available for rats, mice, rabbits, and guinea pigs. Half the mice died when given an oral dose of 1,100- 3,750 mg/kg. The drug is also carcinogenic in rats, but does not cause mutations in mammalian cells. It does not inhibit the growth of bacteria. Sublethal effects (meaning growth inhibition) were observed in daphnia (a water flea) at 92 ppb, and the lethal concentration to zebra fish is 43 ppb after four days.

Based on its annual production of Tegretol, Ciba-Geigy has calculated an expected environmental concentration to the environment. By comparing this number to the lethal concentration in zebra fish, it gives itself a safety factor of at least 100.

However the production values used to formulate the safety factor are confidential, and this number, once again, fails to account for production by other manufacturers.

Researchers are just beginning to study the ecotoxicology of carbamazepine and other drugs. Eve Dussault, a graduate student at Guelph University in Canada, found that daphnia were killed when carbamazepine was present at 17.2 ppm, and that midges died at 34.4 ppm. However, she also found that carbamazepine inhibited growth at 12.7 ppm for daphnia, and at 9.2 ppm for midges. These figures are one 100 times the concentration that is often found in the environment. Dussault says that the half life of carbamazepine once it enters the environment is around 80 days, but that the environmental levels are much lower than what she found was lethal to benthic organisms.

"But this is only acute toxicity, a 10-

(Continued on page 24)

Which awards inspire reporters to go to exceptional lengths in covering breaking science news?



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The AAAS Science Journalism Awards represent the pinnacle of achievement for professional journalists in the science writing field. The awards recognize outstanding reporting for a general audience and honor individuals (rather than institutions, publishers or employers) for their coverage of the sciences, engineering and mathematics. The awards are sponsored by Johnson & Johnson Pharmaceutical Research & Development, L.L.C.

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Family... (from page 1)

The result is one of the deepest looks at what continues to be an emerging question – are we living better through chemistry, as one company’s motto once asserted? Or is modern chemistry creating problems that we don’t see today but could be the next asbestos, lead or other poison once commonly found in consumer products?

SEJournal asked Fischer to give us the Inside Story on how he researched, wrote and reported “A Body’s Burden.”

Q. How did the series get started? Where did the idea come from and how did you and your editors develop the idea?

A. I had done a number of stories about rising levels of flame retardants in women’s breast milk. Every time, without exception, worried moms flooded my e-mail in-box wanting to know where they could get their breast milk tested. Clearly, there was a larger story here about our chemical body burden. Then my editor said management was looking to do something ambitious, and did I have any ideas?

So I went fishing: I made calls, read up on the scientific literature. When someone mentioned no one had ever really looked at a family, I had my project. From there it was a matter of framing the project with my editor and various sources – what chemicals to test for, what lab to use, how much to spend, other angles to include.

I spent maybe five months, all told, just developing the idea and putting together a story budget before I had firm approval to spend the money. My editor, Mike Oliver, asked me to keep the project’s budget below \$5,000. The proposal we eventually pitched to the executive editor was for \$8,000. He added some stuff and approved \$10,000. We eventually spent \$17,000.

Absolutely crazy. But the story budget never changed. I had done my homework, and it paid off big time.

Q. The power of the piece is the test results come from what should be a family that is already taking – or thinking they are taking – some precautions. How did the idea of testing human beings come up and get approved? What steps did you have to take to make sure what you did was scientifically sound?

A. You’re absolutely right: the crux is the family. The biggest fear going into this was that with the family living so green, we’d emerge with a bunch of zeros – a bunch of non-detects – after spending \$10,000 on lab tests. I can’t tell you how nervous I was to be committing the paper to such a project with no guarantee we would get the story. But the editors were comfortable with that gamble, and so we rolled the dice.

The fortunate thing here is that I knew so little about testing humans when I started, because had I known otherwise I might have abandoned the idea. Only after I had the family, the chemicals, the lab and the budget all worked out did I realize just how completely in over my head I was. I had no idea, for instance, how much blood I could safely draw from an 18-month-old kid. What happens if the results come back high for one of the family members? What then?

I had nothing in place to protect them. So I made another call, this time to the former head of the federal Office of Human Research Protection under President Clinton. I’ll never forget the

conversation, perhaps because I was so desperate: If I wanted credible results, he said, I needed to take the whole thing before a human subjects review panel. If I was going to do a quasi-scientific study, I needed to play by the same rules as every other scientist.



Photo courtesy of THE OAKLAND TRIBUNE

Walgreens manager Olufemi Oyemakinde restocks a shelf of air fresheners and cleaners at his store in Berkeley, Calif. Scientists studying indoor air find chemicals in these air “cleaners” react with ozone to produce super-fine particles and carcinogens.

It was the best advice I got. The board wanted a protocol, it wanted justification for using the kids, it wanted lots of follow-up support for the family. They wanted to see advisers involved, folks with Ph.D. and M.D. after their names.

They demanded, and got, the paper to pay for follow-up visits to a clinic specializing in environmental exposures at the University of California, San Francisco. In short, they strengthened the project immeasurably, which was incredibly fortuitous given the unusual results we got.

(Continued next page)

Family... (from page 19)

Q. What was the family's initial reaction when you told them the test results?

A. You know, I'm starting to wish I had put this in the story, because it's invariably the second or third question everybody asks and it's important. I was at their house for dinner and we cleared the dishes and Jeremiah ushered Mikaela into their bedroom to put on a video, because he didn't want her worrying that something

the information for those stories? Where did you start, etc.?

A. We wanted to get out ahead of the story and deal with a chemical just starting to show signs of its persistence. PFOS made a perfect case: Few knew it even existed until 2000, when 3M announced it had found the compound in every blood sample tested.

The Environmental Working Group had done a lot of work on PFOS. That in turn led me to the EPA docket, and from there I jumped into the scientific literature. The European Union has also done a lot of work and there's a whole industry trade group devoted to perfluorinated compounds. I also got a tremendous amount of information from DuPont, after I flew out to their corporate headquarters in Delaware and then to North Carolina to tour their plant manufacturing perfluorooctanoic acid, a close cousin to PFOS.

Q. In Part 3 you wrote: "More profoundly, the ability to link body burden to harm remains just beyond the limits of science, for now. Exposures are fuzzy. We move from place to place. There are far too many variables. Epidemiology – the study of the incidence and prevalence of disease – has

considerable limits." Can you discuss what you found that helped you reach that conclusion?

A. I hate writing stories that conclude, essentially, "We really don't have enough information to make a call. We need more research." But, here we were, on the concluding day, saying exactly that. It still bugs me. Yet every epidemiologist I interviewed expressed at some point great frustration at their inability to answer basic questions involving that link between body burden and health.

So much of science is based on controlling for a few variables. Yet issues surrounding our body burden present scores, if not hundreds, (of variables). In fact, I sense the seeds of a larger story here, one that examines whether the tools we have to protect public health – namely toxicology and epidemiology – are adequate when it comes to dealing with multiple, chronic, low-dose exposures to synthetic chemicals. The chemicals are out in the environment. We're exposed to them daily. Do we know what it means? Not really.

Q. The series ends with a "what can I do to reduce my exposure?" piece. Where did you get the information?

(Continued next page)



Photo courtesy of THE OAKLAND TRIBUNE

Michele Hammond gives Rowan, 20 months, a bath before bedtime. Tests of the family's hair, blood and urine found metals, PCBs, plasticizers and, in Rowan in particular, some of the highest fire-retardant levels ever measured.

unpronounceable was in her body. Then I laid out my spreadsheets.

I wish I could say something dramatic happened, but none of us knew what to make of these numbers. Michele started to nurse her son. It might have been reflexive or just that Rowan was hungry, but it was reassuring nonetheless. Jeremiah moved to the couch and let out a sigh: he had assumed he would have the highest body burden and was rather surprised to see his son and daughter outpace him in just about every category.

But, for a large part, we didn't know what the numbers meant. I didn't know at that point just how off the charts their exposures for brominated flame retardants were. Or why Michele should land in the 70th percentile for a phthalate most commonly found in cosmetics, which she hardly uses. That understanding came gradually, after many discussions with other scientists and after the family's visit to the UCSF clinic.

That said, by the end of the evening Michele and Jeremiah were pretty calm. As Jeremiah told me that night, more or less: "It's not a matter of saying 'Oh my god! We've got to throw everything away.' It's society's problem."

Q. Part of the series looks at some persistent chemicals, such as perfluorooctane sulfonate, or PFOS. How did you get

What kinds of reactions did you get to that specific piece?

A. We got lots of predictable calls from people suddenly concerned about their paper plates or sofas or mattresses. One woman left me three e-mails in quick succession because a carpet cleaner was at her house and offering to apply some sort of Teflon-based stain protectant as a final coat. She declined.

I was lukewarm to including that story, as we really don't know how we're exposed. Our tests of the Hammond Hollands, I think, proved that. They have one miniscule TV, an old couch, a small throw rug. But take a family from the suburbs with wall-to-wall carpets, a big-screen TV, the latest electronic gizmos and nice new upholstered furniture – all sources of brominated flame retardants – and I'll bet you a bucket of money the Hammond Hollands will test higher. How can that be? Who knows?

But I think there's value in understanding your paper plate is not just paper. Or that there's a reason why your microwave popcorn bag doesn't leave a grease stain on your desk blotter – and that you may be paying a small, small price for such convenience. A lot of people said, "Gee, I never knew." That was the whole point.

Q. The series included a "body burden quiz." How did you devise it and what has been the response?

A. I had seen some other online "body burden" quizzes and was disappointed. What I wanted at the end was something that could give me a number, tell me where I was on the spectrum of potential exposure. Like our "what can I do" piece, it's largely a guess. But from the responses it's clearly prodding people to think (about) their everyday products and assumptions they've held about them.

And like our "what can I do" piece, information for the quiz came almost exclusively from scientific literature and interviews with scientists and industry. Often, the introduction to journal articles on, say, phthalates or perfluorinated compounds would contain a quick run-down of consumer products containing them. I just filed the info away and gradually built up my database.

The ranking system, on the other hand, is pure guesswork. You get 10 points if you use cologne frequently, but seven for occasional use. Is that fair? It's my best guess, which is why the intro to the quiz states this is more for fun than anything else.

Q. What was the hardest part of putting everything together? Did you start with an outline, or just dive in and outline as you went? Did you end up where you thought you would in the beginning?

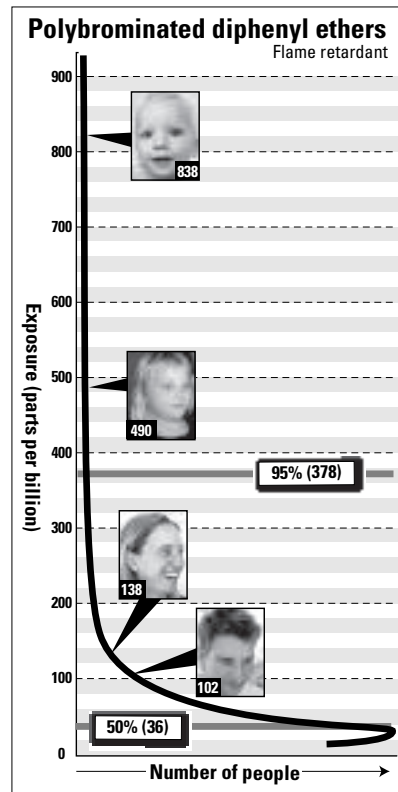
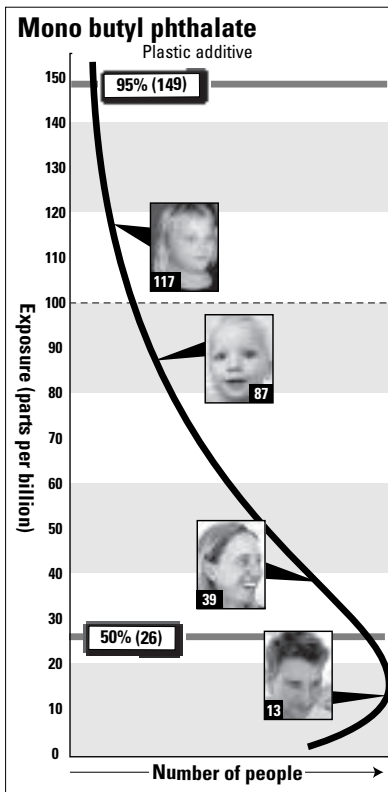
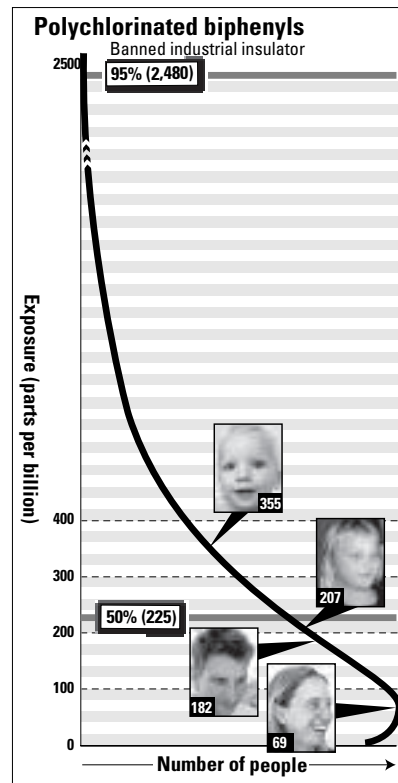
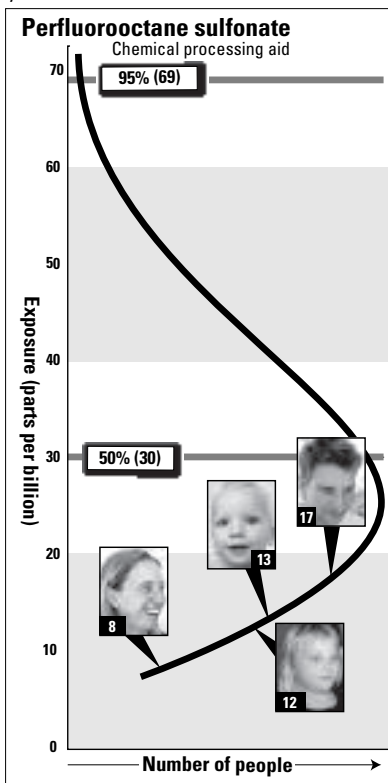
A. Dive in? Ha! I can't imagine tackling such a project without an outline as anchor. And that outline – and my faith in it – never wavered. As I said earlier, I credit that to months of upfront work before I even knew the project was a go.

The hardest part, by far, was sitting down before
(Continued next page)

A family's body burden

We all have chemical pollutants in our bodies, with our levels falling along a curve scientists draw from small-scale studies. The bulk of us are clustered near the 50th percentile – the line near the bulges at the graphs' bottoms – where exposures are low. But a small percentage have higher levels, as the line marking the 95th percentile shows.

The Hammond Hollands know where they fall on the charts. Only expensive tests can show you your location.



Sources: U.S. Centers for Disease Control and Prevention; K. Kannan, Wadsworth Center, New York State Department of Health; AXYS Analytical Services Ltd.; A. Bergman and M. Athanasiadou, Dept. of Environmental Chemistry, Stockholm University; U.S. Agency for Toxic Substances and Disease Registry; T. McDonald, Calif. Office of Environmental Health Hazard Assessment.

Courtesy of THE OAKLAND TRIBUNE

Family... (from page 21)

a blank computer screen and trying to compress all this knowledge into three succinct, lively, readable main-bars. I have never felt such pressure, and I am not sure I could do it again. What helped, oddly, was that I had to write the series backwards. Deadlines and delays in getting the family's results meant I had to write part three first. By the time I got to part one, knowing exactly where this series was going proved immensely helpful. Unorthodox? Yes. But it worked here.

Q. I know you had to wade through a lot of technical information – and chemistry, etc., subjects that many journalists have avoided. What kinds of reference books or sources did you find most useful? Were there any websites you used that you found really helped?

Photo courtesy of THE OAKLAND TRIBUNE



These raw Teflon “diamonds” were made without a key processing aid – perfluorooctanoic acid, or PFOA – which scientists are increasingly finding in our bodies. But the technology is new and DuPont is not sure it will be commercially viable.

A. I look at my early interviews and just shake my head at how little I understood. An organic chemistry course is one thing I could've definitely used. And it helps considerably to have a wife who's getting a Ph.D. and can steer you through the journals and explain the chemistry. In the end, it was a lot of mind-bendingly dull articles, a lot of coffee, a lot of dead-ends, that got me to a basic understanding. I think it was Tom Knudson of the *Sacramento Bee*, who in this space a few months ago, compared the process to hard-rock mining: you have to move a lot of dull, uninteresting overburden to get to any nuggets. That's true. It's not easy, and I'm glad my editors gave me time to figure this all out, because there's no other way to build such a foundation.

Q. What has been the overall response to the series?

A. Surprisingly positive. And grateful. I'm not sure what I had expected, but I was touched by the number of people who took the time to write and say they never realized any of this and that they appreciated the series.

We also had a few complain about fear mongering at its worst, which I was also glad to see. That was something that was always in the back of my mind. I mean, if we're going to worry about public health, shouldn't we tackle obesity and smoking first?

But, overall response was positive. Even DuPont, who we knocked around a bit, felt the pieces were fair (which has me thinking I should've hit a little harder.). We printed a whole page of letters the following Sunday and even now, two months later, comments still trickle in.

Q. If a journalist wanted to do a similar project, what would be your three best pieces of advice?

A. One, if you're going to test humans, get approval from a human study panel. It was the best advice I got and I'm unashamed to preach it like religion. Panelists are well used to dealing with human subject experiments and thoroughly understand the many issues that unexpectedly pop up. They're going to want to see them addressed in your protocol, and they're going to make sure your subjects are adequately protected. It's a handy safety net.

Two, don't test yourself and do a first-person item. Sure, it's easy – no need for a human subject's review, no need to find a family or volunteer. But the few pieces I've seen done that way always strike me as somewhat self-serving and novelty-ish – like a reporter out for a joy ride in an F-16 or getting a fancy makeover. There's much more power, I think, in reporting on someone else: what their life is like, who they are, how their numbers relate and how they cope with the knowledge.

Three? I don't have an easy third. I would aim my third point at those out there considering going to J-school. Don't. Instead get a degree in chemistry. Or math. Or the physical sciences. Then come back and translate what's going on in those fields for newspapers, TV or radio. I've never felt so hobbled by a lack of education as when I was reporting on this series. There's a lot of fascinating work going on in the sciences right now, a lot of work incredibly relevant to the fellow down the street driving the Buick. But he's not getting it, because us journalists can't translate the chemistry, or never make it out of the methods section of the article, or waste three-quarters of an interview with the lead scientist just getting a basic grasp of the material. I'm sure others will disagree, but I think our reporting on science, on global warming, on public health would have greater nuance if more of us could go beyond the most basic elements of organic chemistry or multi-variable calculus.

To read the series, go to:

<http://www.insidebayarea.com/bodyburden/>

Douglas Fischer bluffed his way into journalism 10 years ago, after persuading the editors of the Fairbanks Daily News-Miner in Alaska to let a guy cover City Hall with no experience beyond editing his high school paper. He spent five years there covering local politics and natural resources, winning several public service and regional awards. Fischer put the parka in cold storage and moved to California, where for the past five years he has covered the environment for the Oakland Tribune and ANG Newspapers' other Bay Area dailies. Fischer holds an ever-practical B.A. in philosophy from Columbia University. He lives in Oakland with his spouse and two children.

Mike Dunne reports for The Advocate in Baton Rouge and is associate editor of the SEJournal.

Sources... (from page 1)

story because it was unsubstantiated or not fair. Demonstrate how your ethics shaped the story. Share personal tidbits; make the source know you. Your goal is to differentiate yourself from the rest of the media.

Risks: May not hesitate to sell you out. Remember the turtle and scorpion story? A scorpion is always a scorpion.

Ethical Source: “I want to help you but I won’t stray from the boundaries of my job.”

Frequent types: Spokespersons; attorneys; prosecutors

Strategy: Build respect and trust by never asking the person to stray beyond job boundaries. Build rapport over time. Share your reporting goals, express your sensitivity to the difficulty of the person’s position. Find out what makes the person professionally unhappy, then in conversation drill in on that soft spot. Share your own job frustrations. Ask if there are ways to get what you want, but don’t ask that person for it. More often than not, the person will form an off-the-record relationship that can be among the most valuable.

Risks: May not hesitate to reveal your plans and words to supervisors.

Puppy Dog Source: “I want to be you. Instead, I’ll shadow your every step.”

Frequent types: Whistleblowers; street contacts; low-level employees

Strategy: Be accessible within reason. Let the person into your world, but try to limit access to details. This person wants lots of attention, lots of stroking. Call this source and share your enthusiasm, but carefully explain your boundaries, demonstrate your professionalism. This kind of source often wants immediate, quick results. Educate them about the process – verifying, record gathering, interviewing.

Risks: May run to another media outlet if ignored.

Reluctant Source: “I’m not sure I really want to be involved.”

Frequent types: Mid-level bureaucrats; private company executives; victims of injustice

Strategy: Absolute honesty – always. Demonstrate that their concerns are *your* primary concern. Layer the interview process; build gradually. Identify their worst fear and work on it. They often possess a very private agenda.

Risks: May bolt once their agenda is fulfilled.

Ivory Tower Source: “Snatch the pebble from my hand.”

Frequent types: Professors; doctors; researchers

Strategy: Three most important rules: research, research, research. Flatter them by saying you read their work, then pick out a detail. In other words, you may not be able to read all 20 of their studies, but choose the most important and read it carefully, picking out parts to comment on in the interview.

Risks: They may bolt if they find out you’re faking it

Momentary Source: “I’ll never see you again.”

Frequent types: Breaking news scenes

Strategy: Identify yourself first. Avoid journalist stereotypes – how you feeling now? – and stand away from the pack when

possible. Explain that you are doing a story and wanted to know if there was anything they would like to add, something readers should know. Never ask if you can ask them a question.

Scrooge Source: “I hate my job. I hate my co-workers. I’ll give you whatever you want.”

Frequent types: Government workers; mid-level law enforcement supervisors; clerical staff

Strategy: Despite their anger, they will respect your neutrality. Demand records. Make them feel central to the story. Capitalize on their need to be wanted; praise their insights.

Risks: May abandon you if they feel ignored.

Barricaded Source: “You’ll never penetrate my defenses.”

Frequent types: Institutional bureaucrats such as hospital

.....
 Understanding a source’s characteristics is only one step. Equally

 important is to conduct an honest assessment of yourself, the

 reporter: Would you want to talk to you? If you don’t have a personal-

 ity, get one. Fast.

executives; military; elected officials

Strategy: Send the message that you are never going away. Show you don’t need their blessing to gather information. Call frequently with updates on your progress and pepper them with e-mails to document your willingness to share your findings (I found another lawsuit that you settled for wrongful death).

Risks: They may never crack. Or, they may try to play slick semantic games to slip an error into your story as a way to discredit you.

Cloistered Source: “You’ll never understand. You’re not one of us.”

Frequent types: Ultra-religious followers; highly skilled professionals

Strategy: Research is essential; find common ground. Listen carefully; take lots of notes – show them every word is valuable. Offer them a prominent story voice, but note there are many others willing to fill the role if necessary. Explain why you want them more than any other.

Risks: No tolerance for sloppy research. Like a switch, they can click you off without remorse.

Headline Source: “I’ll tell you whatever I think you want to hear – even if it’s not quite the truth.”

Frequent types: Politicians; casual contacts; most anyone

Strategy: Constantly probe for inconsistencies. Ask them how they know the information; trace it to the source. Ask for records. If they are a long-term source, teach them how to be a better source.

Risks: May unintentionally mislead you or waste your time.

Understanding a source’s characteristics is only one step. Equally important is to conduct an honest assessment of yourself, the reporter: Would you want to talk to you?

If you don’t have a personality, get one. Fast. These strategies work when you fold them into your own style. And don’t mistake

(Continued next page)

Sources... (from page 23)

strategy for disrespect. Care deeply about your sources and don't be afraid to let them know you consider them precious resources. Be absolutely honest and sincere, even when it might hurt.

Several years ago I secured an exclusive interview with a doctor whose mother was killed by a hospital error. The story, part of a large investigative project, would not be published for months. Meanwhile, a television network learned of the case and attempted to steal my source.

The network reporter bashed the importance of my newspaper (the *Chicago Tribune* at the time) by claiming the broadcast was superior. In an effort to appeal to my source's vanity, the network reporter promised an appearance on a popular morning news show in addition to a main news story.

The source called me and asked what he should do.

If it were my mother, I told the source, I'd pick the forum that best communicated the lesson of her story. I gently made my case, never criticizing the cable channel (although I was sizzling

inside). The newspaper was something that could be held for days, passed around and shared, clipped and saved forever. Plus, I had invested weeks of research. Nobody knew the story, or could tell it more powerfully, than me. But I told him I would respect his decision. The source stood by me.

Fortunately, the network reporter failed to understand my source's motivation. He didn't want fame. He wanted an in-depth story told with verve and punch.

Too often, good sources are wrongly defined as people who provide pithy, succinct sound bites on demand.

Take the time to understand your sources. Invest in them.

And the next time a call about a death ray crosses your desk, hop in the car and go talk to someone.

Michael J. Berens is a projects reporter for the Seattle Times.

Rivers... (from page 18)

day test," she says. "We don't have any clue about chronic toxicity in the environment."

Chemistry unaccounted for

But that's only looking at the parent compound itself. Of course, the body metabolizes drugs into different substances, bacteria may degrade them, and most chemicals react with other chemicals in the environment. Researchers have not even begun to account for these effects.

In the case of carbamazepine, the liver metabolizes about half the dosage to create carbamazepine epoxide. This chemical also has strong anti-convulsant properties, but it is less toxic to cells than the parent drug. It is also negative for the Ames test, which checks to see if a chemical mutates bacteria. No environmental research has been done on this metabolite, and scientists in the USGS say they don't even check for it.

This creates an interesting issue, because there could be additive environmental consequences from carbamazepine and the metabolite carbamazepine epoxide. But at this point, studies have not been performed to see if this is the case. Other anticonvulsant drugs might also add to the effects of either of these chemicals.

It should be emphasized that no negative environmental consequences have been discovered from pharmaceuticals but that may stem from the fact that researchers have been looking at this issue for less than a decade. Drugs usually show harmful effects to fish and small organisms when they contaminate water in the

parts per million range. So far, every pharmaceutical has been discovered at levels at least 100 times more diluted, in the parts per billion range.

The EPA has set no regulatory limit for carbamazepine or any other pharmaceutical, and apparently defers to the expertise of the FDA. And that is part of the problem. Experts on water pollution have very little understanding of medicine or how to search the medical literature, and the medical community does not even know the problem exists. When a couple of research physicians were contacted for this story, they expressed surprise that medications were contaminating the environment.

A toxicologist with a major drug company said that pharmaceutical companies performed the first risk assessment for drugs in the United States in order to comply with NEPA. Similar requirements were later enacted by countries in Europe, but the EU now requires more information and seems to have stricter regulations than the United States.

American scientists agree with this opinion and say that the United States is now in catch-up mode with the Europeans who seem about five years ahead of us in understanding how medicating our waters might affect wildlife and humans.

Contacts and Questions

Scientists often switch terminology depending on their line of work and specific discipline. For simplicity's sake here are some conversions. The column on the left is usually easier for average readers to grasp.

parts per billion (ppb) = micrograms per liter (ug/L)
 parts per million (ppm) = milligrams per liter (mg/L)
 parts per thousand (ppt) = grams per liter (g/L)

- Dana Kolpin, research hydrologist, USGS, 319-358-3614, dwkolpin@usgs.gov.
- Michael T. Meyer, research hydrologist, USGS, 785-832-3544, mmeyer@usgs.gov, <http://ks.water.usgs.gov>.
- Shane Snyder, R&D project manager, Southern Nevada Water Authority, 702-856-3668, shane.snyder@snwa.com, www.snwa.com.

Paul D. Thacker is an associate editor at the peer-reviewed journal Environmental Science & Technology.

GOP politics, industrial collapse, biodiesel and national parks

Whitman's memoir answers a few questions, but not all

IT'S MY PARTY TOO: THE BATTLE FOR THE HEART OF THE GOP AND THE FUTURE OF AMERICA

By Christine Todd Whitman

The Penguin Press, \$24.95

Reviewed by TOM HENRY

Reading this book is kind of like hearing a country-and-western band in the French Quarter of New Orleans: A pleasant experience, perhaps, but not the reason you went there.

It's a soft memoir interspersed with Christine Todd Whitman's observations about how the Republican Party has lost touch with mainstream America and allowed itself to be manipulated by the religious right and other arch conservatives.

But it's also a good reason why we should read titles more closely. Out of fairness to Whitman, the title's true to the theme of her book. But that's one of the problems: The theme.

Whitman rose to national prominence in January 2001 as the first U.S. Environmental Protection Agency administrator in President Bush's cabinet, not because she offered some uncanny take on partisan politics while New Jersey's governor or because she came from a family well-heeled in GOP politics.

She replaced Carol Browner of the Clinton administration. Browner, by many accounts, was one of the more aggressive and liberal EPA chiefs in the nation's history.

Whitman, a moderate Republican, gained respect by showing she was no pushover herself. Rather than cave in to pressure from an administration accused of rolling back environmental protection, she stepped down in May of 2003. In so doing, she left many burning questions about why.

Unfortunately, she provides few answers in this book. But at least she gives a hint of her frustration, especially when it comes to Bush's rejection of the Kyoto Protocol for curbing carbon dioxide and other greenhouse gases that cause global warming.

Bush claims something other than the Kyoto treaty should be implemented because it could cripple the U.S. economy.

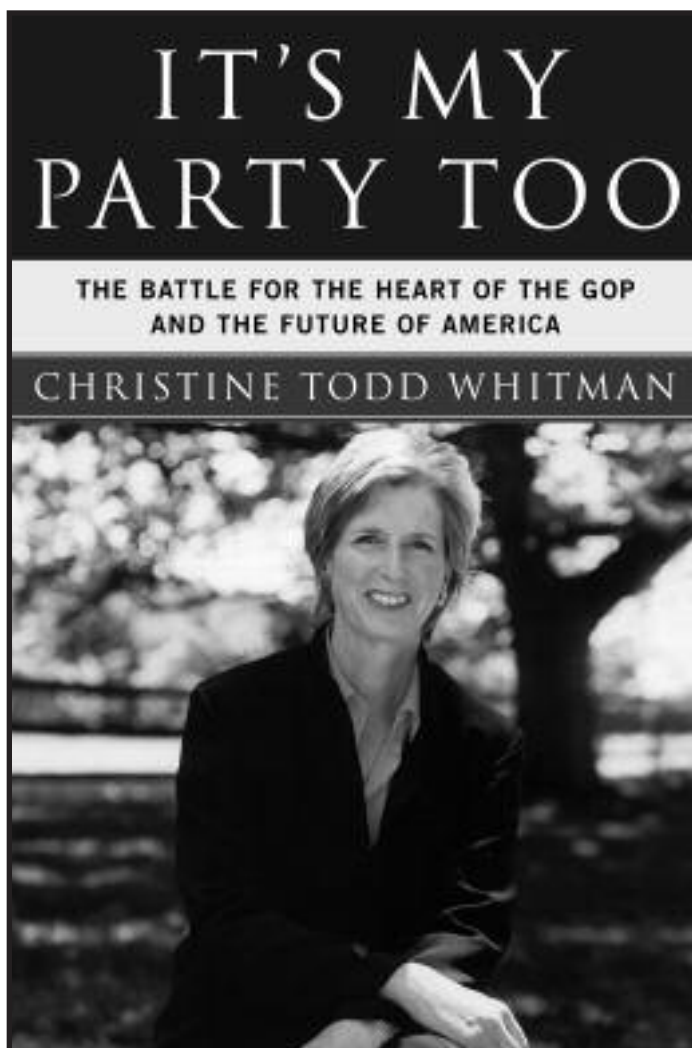
Whitman said she told the president that global warming "is a credibility issue for the U.S. in the international community" and that it must be addressed in some fashion. She said he succumbed to pressure from far right conservatives on Kyoto by reversing an earlier commitment to address carbon dioxide. She said his decision to appease them was a political embarrassment to her and that Bush acted "with little regard for what is in fact a serious problem."

She also said Bush's opposition to Kyoto was "an early expression of the go-it-alone attitude that so offended our allies in the lead-up to the Iraq war."

"The roots of our difficulties in forging a strong multinational alliance to fight terrorism go all the way back to how we handled Kyoto as well as other international issues," Whitman wrote.

Although the book misses a great opportunity to take readers into the White House and reveal the administration's environmental policy rifts in greater detail, it is somewhat intriguing because of Whitman's views on the far right's influence.

She said she has caught flak for years over her pro-choice views on abortion. She feels the GOP, to some degree, has betrayed Eisenhower-era Republicans raised on the notion of limited government intervention. She makes a case for how the party



is even fundamentally different than during the Reagan administration and how it will need to come back toward the middle of the political spectrum if it hopes to capture more of the mainstream in future elections.

"It is time for moderates in the Republican Party to become activists – activists for the sensible center, for reasonable policies based on fundamental Republican principles, which address the challenges America faces at home and in the world," according to Whitman.

She said the GOP should be embarrassed by how it has alienated African-Americans and other minorities. "Our actions have not always been true to our legacy as the party of Lincoln," she wrote.

While sharp-tongued conservative commentator Ann Coulter takes deep exception to Whitman's assertions, former White House counsel John Dean doesn't.

(Continued next page)

In a recent column published by FindLaw, he said he found Whitman's book both fascinating and disappointing, something which will not likely win her many friends on either side of the aisle. "But those who dismiss her, and her book, do so at their own peril. This book is an intriguing report from within the ranks of the Republican party – where, it turns out, not everyone is marching in lockstep to 'Onward Christian Soldiers,'" Dean wrote.

Tom Henry is the environmental reporter for The Toledo (Ohio) Blade.



Is it time to choose change or face our own collapse?

COLLAPSE: HOW SOCIETIES CHOOSE TO FAIL OR SUCCEED

By Jared Diamond

Viking, \$29.95

Reviewed by BILL KOVARIK

The massive statues lording over the ghostly plains of Easter Island tell a story. So may the iron skeletons of our own skyscrapers in a few short generations. Their shared narrative is one of willful ignorance and limited resources put to the service of a small elite, says Jared Diamond.

It is the story of "Collapse", and it is not difficult to understand – walking with Diamond through the ruins of civilizations that died out – the awe and dread that propelled his sweeping historical inquiry.

An impressive feat for a work of environmental non-fiction, "Collapse" spent 16 weeks on the *New York Times* bestsellers list.

A professor of geography at the University of California at Los Angeles, Diamond draws from anthropology, archeology, zoology and history to present a compelling but occasionally simplistic argument about choosing alternatives to our own collapse.

His 1998 Pulitzer-winning book "Guns, Germs and Steel," asked why Western industrial nations became dominant. Now *Collapse* asks what environmental and human factors lead to the demise of civilizations.

Diamond doesn't survey every collapsed civilization. He omits Rome, Greece and Egypt, among others, exploring only those failures known to be at least partly environmental.

Perhaps the world's best-known ecological collapse is Easter Island in the remote South Pacific.

Its barren landscape is dotted with hundreds of mysterious stone statues: some 15 to 20 feet tall and others as tall as five-story buildings. Many lie in various stages of completion, as if the workmen had suddenly put down their tools and walked away.

The statues consumed dozens of logs to move and lift into place. The statue making apparently accelerated when the island's last trees were cut down. Wooden boats for fish could no longer be made and agriculture collapsed under human pressure and drought. Evidence from dumps and graveyards shows the descent into chaos and cannibalism. Islanders blindly ignored their environment until it was far too late.

Another ecological collapse was Greenland's Norse colony. The region's climate changed rapidly around 1430 and the Norse apparently refused to learn survival techniques from the Inuit, whom they considered inferior "skraelings." Guided by the chiefs and clergy, colonists stuck blindly to lifestyles and imported livestock they could not sustain. "Ultimately, the chiefs found themselves without followers. The last right they obtained for themselves was the privilege of being the last to starve."

The recent genocide in Rwanda is another example of ecologically related collapse. Prior to the genocide, food production in Rwanda had declined due to overworked soil, resulting in drought. Mass murder was a political decision, but one reason that it was carried out so thoroughly is that there were too many people trying to live on too little land.

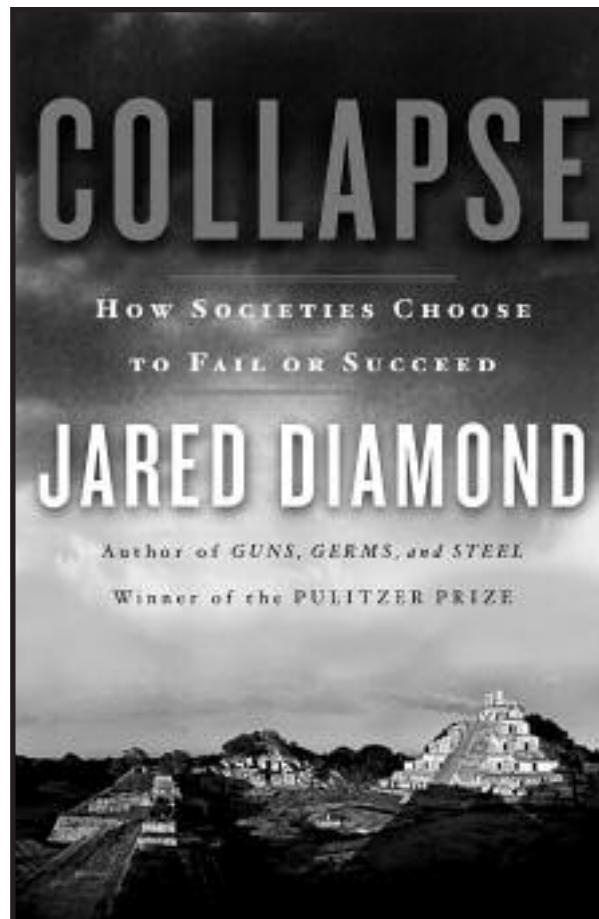
In the future, Diamond argues that the Third World's desire to achieve First World status may be impossible, given the planet's limited resources. Either way, Diamond insists that we "can no longer get away with advancing our own self-interests at the expense of the interests of others."

He says, "Life is full of agonizing choices based on trade-offs, but (this is) the cruelest trade-off that we shall have to resolve: encouraging and helping all people to achieve a higher standard of living without thereby undermining that standard through overstressing global resources."

Diamond's willingness to be detailed and accurate in most particulars and yet simplistic and sweeping in others must irritate academic historians. For example, toward the end of the book, he presents two maps of the world, each with the same 14 nations highlighted. One is labeled: "Political Trouble Spots of the World." The second is labeled: "Environmental Trouble Spots of the World."

Obviously, complete correspondence between all political and

(Continued next page)



environmental problems is simplistic. Critic Gregg Easterbrook took Diamond to task for “drastic oversimplification” in “Guns Germs and Steel” and had the same problem with “Collapse.” But isn’t it the point of broad, sweeping histories to collapse detail into recognizable patterns?

We might see Diamond as something of a modern Ulysses, steering a course between optimism and gloom. He is fully conscious of the limitations of sweeping history but sees the need to attempt it in any event. And he writes in plain prose what Tennyson’s Ulysses said in poetry: Come my friends; ‘Tis not too late to seek a better world.

This book will be discussed for many years. Put it at the top of your summer reading list.

Bill Kovarik is a professor of media studies at Radford University.



Gripping voice of park ranger instructs and reveals

NATURE NOIR: A PARK RANGER’S PATROL IN THE SIERRA
By Jordan Fisher Smith
Houghton Mifflin, \$24

Reviewed by JENNIFER DALEY

Leaving aside the funny brown hat and uniform, the life of a park ranger carries a certain nostalgic appeal in America. One might call to mind a sincere young nature enthusiast, reciting the names of wildflowers while escorting hikers through America’s hidden wilderness.

But being a ranger, Jordan Fisher Smith quickly teaches you, is no idyll in the woods.

Read this account of his life as a California state park patrol ranger and a darker picture unfolds – unsolved murders, rapes by the roadside, fights between drunks at the water’s edge and arriving minutes too late to stop a suicide from a bridge some said should not have been built.

Smith spent 14 years as a park ranger in the Auburn State Recreation Area in the Sierras northeast of Sacramento. What quickly becomes evident is that Auburn is not your usual state park. Encompassing two forks of the American River that eventually flow through the state capitol, Auburn was chosen as the proposed site of a dam to protect the city, which lies in the river’s floodplain. The dam would submerge canyons and crests, sacrificing them for the sake of civilization. The dam builders were so confident in their project’s completion that Smith was able to buy maps depicting the future of his home in the Sierras. On them lakes replaced gorges. The land under his care – his office, his favorite

beach, wide-open vistas – was deep underwater.

To make way for the dam, Auburn’s residents are forced from their property and the river canyons are repopulated by squatters and criminals. Smith refers to this environment of impending doom as his Purgatory, where “you still have a chance; the final judgment on you and everything has yet to be rendered.”

Shifting negotiations add complications to the park’s uncertain future. Earthquake concerns, engineering questions and political wrangling move the dam’s construction forward in fits and spurts. The government does finally render a judgment of the park’s fate but it is of questionable solace to Smith.

“What has happened to them has rendered these canyons mortal in our eyes, and like the rest of wild nature, they will now continue to exist only at our sufferance,” he writes.

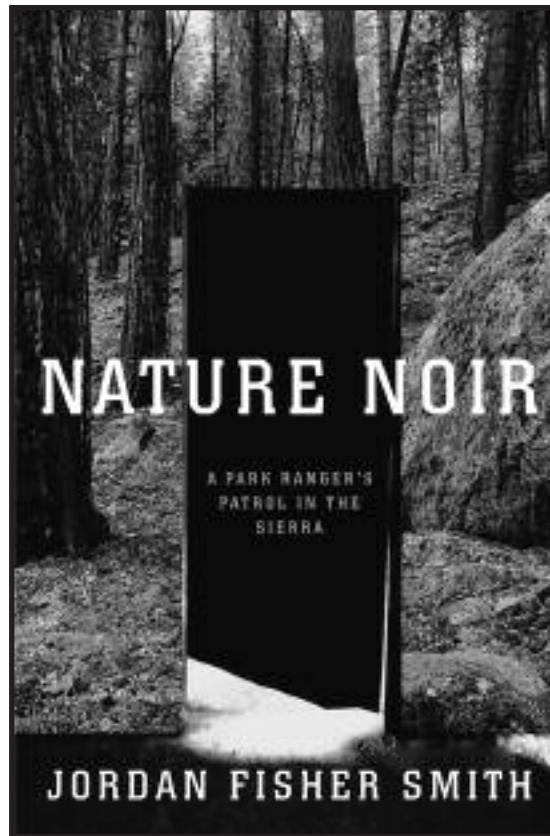
One of the many reasons for protecting such places, in Smith’s view, is their rich history. In the Sierras, Native American trails, miner’s lost dreams and suburban sprawl are layered over a dramatic natural history of raging rivers eroding rock and forming canyons. Now, dried-out riverbeds are a likely target for development.

But this story’s ending is as compelling as its beginning. While

hopeful, it is no nature romance and perhaps that is why Smith’s voice is so gripping. He conjures not a pastoral world cared for by humans, but instead a darker, more deadly relationship between people and the world they inhabit.

Smith wonders what other people would think if they understood a park ranger’s true experience of nature. “Perhaps (they) will say (we) lack critical coolness, giving our working lives to protecting something they say doesn’t even exist anymore. In defense, I can only say that to favor a principle – wild, self-willed nature – with the manifest ability to create your species and support you since time immemorial, over a pipe dream of a manufactured and regulated world with no such demonstrated ability, is the most practical thing there is.”

Jennifer Daley is environmental and towns reporter for The Ithaca Journal.



Well-timed overview of alternative fuel, biodiesel

BIODIESEL: GROWING A NEW ENERGY ECONOMY
By Greg Pahl
Chelsea Green, \$18

Reviewed by JENNIFER WEEKS

When you hear about running cars on biodiesel, do you pic-

(Continued next page)

ture co-op members brewing old frying oil in their garages or a renewable energy industry powered by Archer Daniels Midland, Cargill and their brethren? Either way, you're half right.

Biodiesel is a fast-growing, diverse industry and an important piece of the current energy dilemma. Greg Pahl reviews current activities worldwide and how they can meet some fraction of clean energy demand.

Making biodiesel is a simple process of separating glycerin from fat or vegetable oils by adding a catalyst and alcohol. This process "cracks" oil molecules, producing biodiesel and glycerin, which is sold as a by-product.

Biodiesel can be produced from many feed stocks. Crops currently used include oil palm, coconuts, rapeseed (canola), sunflowers, mustard, and soybeans. Animal fats and used frying oil are also important sources though the latter require treatment to remove impurities. McDonald's donates frying oil to some European biodiesel producers.

Rapeseed has the highest oil yield of any conventional crop currently used to produce biodiesel. It is the main feedstock used in Europe, the major biodiesel-producing region, and accounts for 84 percent of world biodiesel raw material resources. Most biodiesel in the United States is made from soybeans, partly because U.S. soybean farmers are organized and politically influential.

An EPA analysis found that either B100 (100-percent biodiesel) or a B20 blend (20 percent biodiesel, 80 percent petrodiesel) produced significant reductions in nearly all exhaust emissions except nitrogen oxides. The National Renewable Energy Laboratory estimates biodiesel produces 78 percent less carbon dioxide than regular diesel when all relevant petroleum fuel use for farm equipment and transportation is factored in. Biodiesel offers other benefits. It is 10 times less toxic than table salt and is less volatile than conventional diesel. Because it degrades four times faster than petrodiesel, spills have less impact in the environment, making it a preferable fuel for use in forests and waterways. Biodiesel production generates less wastewater and hazardous solid wastes than petrodiesel.

Biodiesel also measures up well in vehicle performance, with better ignition and lubricant properties than conventional diesel. Though it provides about 5 percent less torque and fuel efficiency, some large biodiesel users, such as school bus fleets, have saved money on maintenance activities such as oil changes and

fuel pump replacements because biodiesel burns more cleanly and lubricates engines more effectively.

Biodiesel's biggest drawback: It is consistently more expensive than conventional diesel. B20 cost \$1.72 per gallon in the fall of 2004, compared to \$1.53 for Number 2 diesel. Most of its feed stocks are more expensive than petroleum and prices for soybeans fluctuate dramatically on world markets. Several factors

may change this calculus. Most importantly, the United States adopted a biodiesel excise tax credit in 2004 that could eliminate all or most of the price differential.

In Europe, biodiesel has benefited from strong government support, including sales targets, fuel standards and tax exemptions. Germany produces 185 million gallons of biodiesel annually (compared to 30 million gallons for the United States in 2004), and the largest European biodiesel plant, located in France, has an annual production capacity of 70 million tons.

For many developing countries, Pahl says, biodiesel production is less important as an environmental policy than as a way to promote local economic development, strengthen agricultural economies and reduce expensive fuel imports.

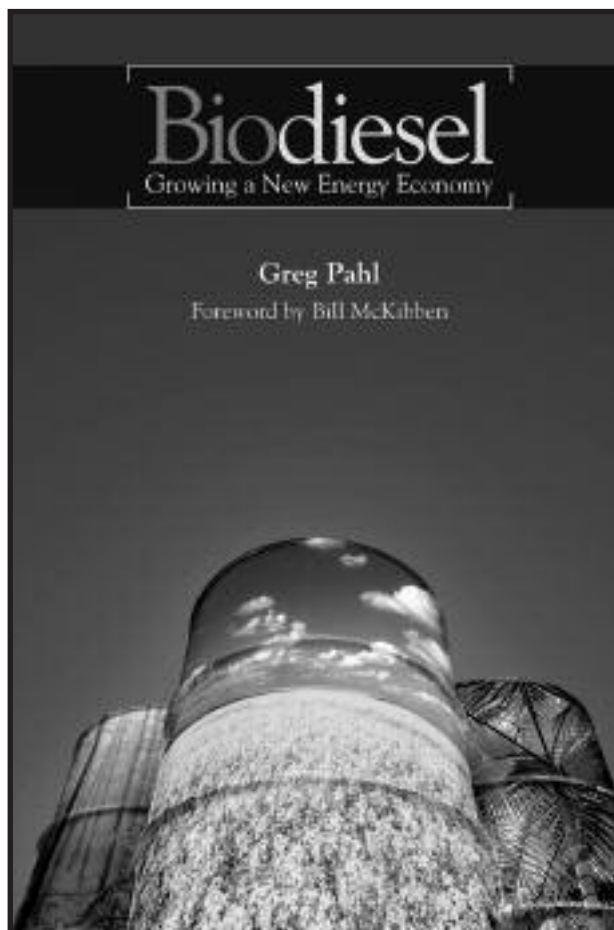
Pahl's historical account occasionally degrades into lists of factories and his account of early biodiesel experiments is overly long. He pays relatively little attention to renewable fuels that compete with

biodiesel, such as ethanol. This is unfortunate since the U.S. ethanol industry is well organized and politically connected. Biodiesel is playing catch-up even though it is an environmentally superior product.

In the United States, integrating diverse biodiesel interests ranging from backyard producers to major multinational corporations is another challenge, especially since soybean growers dominate the national biodiesel board.

Biodiesel may never fully replace petrodiesel, but analysts estimate that it could substitute for something between five and 25 percent of U.S. diesel consumption (not bad, since we consume some 58 billion gallons of middle-distillate fuels every year), and roughly 10 percent of diesel use in other countries. And it provides many health and environmental benefits. At a time when many observers view U.S. energy policy as overly focused on petroleum, this book makes a good case for developing some very different fuels.

Jennifer Weeks is a Massachusetts freelancer.



SEJers cover megafarms, mercury, radiation and a flooded Louisiana

Compiled by MIKE DUNNE

Faced with a sweeping habitat conservation plan being considered for Washington state, *Seattle Post-Intelligencer's* **Robert McClure** and **Lisa Stiffler** looked at the track record for such plans protecting endangered species. (See Reporters Toolbox, p. 11)

After hundreds of interviews with government officials, landowners, environmentalists, environmental professionals, researchers and others and reviewing 10,000 pages of documents, the reporters crafted a three-part series entitled "License to Kill."

McClure and Stiffler reported on more than a dozen working and proposed habitat conservation plans, involving sensitive lands in Washington, Oregon, Montana, California, Arizona, Texas, Alabama and Florida. McClure and Stiffler also analyzed 98 of the nation's largest habitat plans – those spanning 100 or more acres. The analysis included all available plans approved from 1995 to 2004 and not included in a study conducted in the late-1990s by university researchers.

"The *P-I* analysis was modeled after that research, which was conducted at eight universities and led by Peter Kareiva of the University of Washington under the auspices of the National Center for Ecological Analysis and Synthesis," said a section outlining how the reporters conducted the project.

The habitat conservation plan that was the impetus for the series was a 50-year federal guarantee against prosecution under the Endangered Species Act that would apply across 9.1 million acres – one-fifth of the state, the bulk of private forestland in Washington.

The series ran right before the deadline for public comment on the Forest Practices Habitat Conservation Plan.

Part 1 looked at habitat conservation plans in general and how they are used. "These 'habitat conservation plans' authorize developers, miners, loggers and others to 'take' – that is, harm, injure or kill – creatures on the brink of extinction. Theoretically, the permit holder must do something good for the species to com-

pensate for the bad," the two wrote in the opening piece.

Part 2 looked at the science behind some of the plans and focused on an Austin endangered species that will be part of one of the annual conference's tours. The reporters found that all too often, the science used to justify and devise plans is inadequate.

Part 3 looked at the proposed Washington plan, how it was being sold

city as well as details for a story on a plan to incinerate cow manure. In stories written April 24 and 25, Brinkmann reported that farmers and their neighbors in the Green Bay area are struggling to deal with the region's growing status as the center of the state's trend toward larger dairies. Since 1999, more "mega-farm" dairies – those with more than 1,000 animal units or about 700 cows – received state operating licenses in Brown and Kewaunee counties



Photo courtesy of SEATTLE POST-INTELLIGENCER

Jean Krejca with Zara Environmental, a consulting company working on cave species, conducts species inventory in a small limestone cave near Austin, Texas.

and highlighted some of the flaws that scientists see in the plan.

In an on-line chat, McClure said reaction had run from one extreme to the other. "Well, we've had a little bit of a lot of reactions. Some people are outraged and want the government to do better. Some people think habitat conservation plans are better than nothing."

The series, which ran May 3-5, can be found on-line at: www.seattlepi.com/specials/licensetokill

The series was just one of many eye-catching stories from the environment beat in the spring of 2005.

Paul Brinkmann of the *Green Bay Press-Gazette* said fellow SEJ members helped him write about the issue of megafarms popping up around the Wisconsin

than any other two-county area. Each county has nine. However, some neighbors and conservationists are fed up with the growing odor and manure-contaminated runoff.

He also wrote about a local dairy farm planning to build a manure incinerator, possibly the first of its kind in the nation. He was able to say it was probably the first of its kind because no one on the SEJ-Talk list had heard of such an incinerator, he said. If successful, the \$3.9 million facility at Wiese Bros. Farms could eliminate a growing problem on many large dairy farms – the disposal of liquid manure.

Dina Cappiello of the *Houston Chronicle* continues to follow up an earlier series on air toxics around Houston's
(Continued next page)

chemical plants and refineries – and a deadly March 29 explosion at a BP refinery in Texas City. In a Feb. 3 story, she wrote that the state agency in charge of protecting the public from the harmful effects of toxic air pollution failed to attend a town hall meeting. It had been called to address the high levels of carcinogenic chemicals it found in some East Harris County neighborhoods, angering the many residents and elected officials ready with questions.

The *Chronicle's* **Lise Olsen** also had stories showing how the refining industry looks as if it has had no fatalities because most of the workers killed are contract workers, a growing trend in the refining business. That article ran May 16.

On Feb. 4, **Shankar Vedantam** of the *Washington Post* reported on an EPA inspector general's report that the agency ignored scientific evidence and agency protocols in order to set mercury emission limits that would fit the Bush administration's plans for power plant pollution. Staff at the EPA were instructed by administrators to set modest limits on mercury pollution and then had to work backward from the predetermined goal to justify the proposal, according to a report by Inspector General Nikki Tinsley.

Ben Raines of the *Mobile Register* continues to report on mercury in the Alabama environment. In a Mar. 11 story with **Bill Finch**, the newspaper reported that mercury concentrations more than a thousand times higher than normal are widespread near roads, driveways, schoolyards, parks and churches in the community of McIntosh. The information is based on testing sponsored by the *Mobile Register*. The contamination appears to be linked to a distinctive, salty, man-made aggregate that has been used to build up roads, driveways and parking lots throughout the southwest Alabama town. Leading scientists and health officials who reviewed the *Register's* findings said that a thorough health study would be needed to determine the extent of the danger. Hugh Lambert, with the Lambert and Nelson law firm in New Orleans, supplied the *Register* with documents that he said were produced by Olin Corp. for the federal court case, filed in Mobile and New Jersey. The documents state the salty aggregate was a mercury-laced brine waste product from the company's former chlorine manufacturing process and was

supplied by the company as a road-surfacing material.

Meanwhile, **Ann Potempa** of the *Anchorage Daily News* reported March 1 that Alaskan officials are telling residents they can eat more locally caught fish than federal health agencies are advising regarding mercury contamination. State officials point to studies showing low concentrations of mercury in many of Alaska's fish. They're sticking by the advice they've issued many times in recent years: All Alaskans – even pregnant women and children – can eat an unrestricted amount of fish. State officials took the stand in the March issue of the *American Journal of Public Health*.

San Diego Union-Tribune reporter **David Hasemyer** reported Feb. 13 that despite former U.S. Secretary of Energy Bill Richardson's announcement in 2000 that 10 million tons of radioactive waste on the banks of the Colorado River would be removed, the pile remains intact – leaking 15,000 gallons of toxic chemicals each day into the river. Federal officials said the discharge poses no immediate danger to drinking water because the toxicity is diluted over the river's meandering thousand-mile course south toward San Diego County, which gets two-thirds of its water from the Colorado.

Radioactivity's past was the subject of a Feb. 13 report on women fighting for former nuclear workers. Reporter **Sara Shipley** of the *St. Louis Post-Dispatch* told the story of one woman who watched her father die a slow and painful death and a recent federal panel's recommendation to extend automatic \$150,000 payments to certain workers who processed uranium for nuclear weapons at an area plant and were stricken with cancer. "The federal panel's decision, made at a meeting in St. Louis last Tuesday, marks an important victory for hundreds of sick, aging nuclear workers and their families in St. Louis," Shipley wrote.

Joe Bauman of the *Salt Lake City Deseret Morning News* reported in March that after spending \$8 million, federal officials have stopped funding for a study of possible connections between thyroid health effects and the radioactive fallout that hit southern Utah and nearby areas of Nevada decades ago. The study has rechecked about 1,300 of 4,000 former students who lived in southwestern Utah and eastern Nevada, plus a control group

of Arizona residents. The Centers for Disease Control and Prevention ended the program, claiming it had no more funding. Dr. Joseph L. Lyon, a University of Utah researcher who has been heading the investigation, said he is "loath to use the word cover-up, but it seems the federal government does not want to know about health effects of fallout on American citizens."

Kim McGuire of the *Denver Post* wrote a Feb. 4 story about crews beginning to clean up 25 million gallons of ponds contaminated by radioactive materials at Rocky Flats. Health officials found the ponds in November and are not sure how they became contaminated with americium.

Perry Beeman of the *Des Moines Register* continues to ride herd on factory livestock operations. On March 12, he reported that federal environmental officials told an Iowa citizens' group they intend to crack down on livestock operations that pollute despite agreements that granted amnesty to some of them. EPA official David Cozad said Iowa cattle feedlots that have been granted amnesty until April 2006 in a separate agreement will face EPA action if they haven't obtained required permits and taken action to prevent runoff pollution by then. "No extensions," Cozad said of the feedlot deadline.

Also in livestock news, **Mark Grossi** of the *Fresno Bee* reported in January that "air pollution regulators may have worried too much about the wrong end of the dairy cow." Researchers announced that cow manure and murky waste lagoons may not be as important in causing smog as once thought. "The cow itself is the bigger offender, apparently accounting for a big chunk of the dairy air problem in the San Joaquin Valley. Bovine belches look like the real culprit, researchers say," Grossi wrote.

In a May 13 story, Scripps Howard News Service's **Joan Lowy** wrote about a bipartisan effort to stop an EPA proposal to allow more "sewage blending." "I think (the policy) is unhealthy for our environment and unhealthy for our citizens," said Rep. Bart Stupak, D-Mich., who is leading the effort. "It is, quite frankly, a ridiculous proposal." Under the Clean Water Act, plants are only permitted to release partially treated sewage during extreme weather events. But EPA is con-

(Continued next page)

sidering a policy change to allow treatment plants to release partially treated sewage virtually any time it rains, rather than only during extreme weather.

John Lantigua of the *Palm Beach Post* wrote in February about one of three Immokalee babies born disfigured to mothers and fathers who work in Florida's farm fields. When all three mothers became pregnant, they lived within 200 feet of one another at the same migrant labor camp, called Tower Cabins. All of them are Mexicans and worked for the same produce company, picking tomatoes, in the same field. More than two dozen different pesticides and herbicides are used in that field. Two of the women say they worked until they were seven months pregnant.

Lisa Rosetta of the *Salt Lake Tribune* wrote on Feb. 13 about what was a plan by the Department of Homeland Defense to remove chemical placards from trains and trucks to make them less likely targets of terrorists. But, for firefighters and other emergency workers, the placards provide important information. The proposal eventually died.

David Goldstein of Knight Ridder News Service wrote a March story about the Food and Drug Administration's consideration of requiring labels for some personal care products. The FDA informed the Cosmetic, Toiletry and Fragrance Association that manufacturers of untested products may have to add a warning. There is no evidence of any health impact from long-term, low-dose exposure to the kinds of chemicals in cosmetics, said the Environmental Working Group's Lauren Sucher. But some ingredients in cosmetics, such as methylpentan-2-one, found in nail polish, haven't been tested. Others, including triethanolamine, used in skin scrubs, are among the chemicals that researchers fear might cause cancer.

On April 10, **Alex Nussbaum** of the *Bergen County Record* wrote about hazardous chemicals migrating far beyond polluted sites, contaminating the air inside homes and businesses. "Fumes – from dry-cleaning fluids, degreasing solvents, gasoline and other chemicals – are rising up through cracks in foundations and seeping into homes around utility pipes. In a state with more than 15,500 known polluted sites, where virtually every commu-

nity has an old gas station or some other tainted property, the vapors are raising new questions about the risks of living near contamination," Nussbaum wrote.

On Feb. 20, **Dan Shapley** of the *Poughkeepsie Journal* wrote a similar contamination story. "People living at polluted sites nationwide could be exposed to the toxin trichloroethylene, or TCE, at levels higher than the Environmental Protection Agency identified as a health concern in 2001, because the EPA never set new cleanup standards based on its study," he wrote. Environmental and health agencies have been grappling with vapors that seep in from polluted groundwater into homes since 1990, he wrote.

The *Los Angeles Times*' **Marla Cone** reported March 2 that a study found more sex organ abnormalities in frogs during the 1950s when chemical use was more widespread. Scientists compared frogs collected over the last 150 years and discovered an increase in hermaphrodites during the times when contamination from the pesticide DDT and other chlorinated compounds was widespread. Frogs with both male and female reproductive organs were rare in the 19th and early 20th centuries but more common during the 1950s, when the largest volumes of the chemicals were used. The results were published in the journal *Environmental Health Perspectives*. Studying endocrine disruption of animals dating back more than a century has not commonly been done.

Scripps Howard News Service's **Joan Lowy** reported March 1 that the nation's coastal counties have grown by 33 million people since 1980 – and another 12 million people are expected by 2015, according to a new government report. California's coastal counties added the most people, 9.9 million, between 1980 and 2003. Florida's coastal areas, however, had the fastest rate of growth – a 75 percent increase, or 7.1 million additional people, the report said. Overall, 153 million people lived in coastal counties in 2003, the most recent data available. In the last two years, two major ocean commissions – the congressionally chartered U.S. Ocean Commission and the private Pew Ocean Commission – have warned that coastal development and population pressures along coasts are responsible to a signifi-

cant degree for the dramatic degradation of U.S. ocean and coastal environments.

Alexander Lane of the *Newark Star-Ledger* reported March 14 that thyroid cancer rate in New Jersey more than tripled since 1979. The rate has doubled nationally. Researchers are not sure why. "It's clear that the incidence of thyroid cancer has been steadily increasing for several decades throughout the U.S. for men and women, especially in the northeastern states," said Eddy Bresnitz, the state epidemiologist for the Department of Health and Senior Services.

The *New Orleans Times-Picayune*'s **Mark Schleifstein** wrote about the potential impact of global warming on low-lying Louisiana. He said recent information has many scientists fearing Southeast Louisiana may be more inundated by the Gulf of Mexico sooner than anyone realizes. "A series of recently published studies of the western Antarctica ice sheet conclude that those changes are adding .24 millimeters a year to the average height of the world's oceans. Though that doesn't seem like much – it's equivalent to about 9/100ths of an inch a year – scientists warn that they expect the rate of both melting ice and the movement of ice off the Antarctic land mass into the ocean to increase," Schleifstein wrote.

Mike Salinero of the *Tampa Tribune* wrote May 8 about the conflicting viewpoints on beach restoration in Florida following 2004's four-storm hurricane season. "More than 16 million cubic yards of sand will be pumped onto those beaches, enough to fill a line of dump trucks stretching from Jacksonville to Seattle and back. The sand will make Florida's ravaged beaches tourist-friendly again while protecting hotels, homes and condos from the next hurricane," he wrote. "In time, it all will wash out to sea."

Louisville Courier-Journal's **Jim Bruggers** wrote about the clash of ideas in his metro area after the mayor began pushing the Strategic Toxic Air Reduction program, being considered by the Louisville Metro Air Pollution Control Board. The mayor said it will help the city attract "knowledge workers" and create a healthier atmosphere. But in an economy known for chemical-spewing manufacturers, local industry and Greater Louisville Inc., the metro chamber of commerce, argued

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that the proposed standards would be unfairly onerous to industrial plants. Those plants employ thousands of workers and would make it more difficult to attract new manufacturing jobs.

Sammy Fretwell of the *Columbia State* on May 2 reported that trains hauling explosive, flammable and poisonous chemicals pass within a half-mile of nearly two dozen Columbia schools, more than 200 government buildings and thousands of homes nearly every day. "If Columbia experienced a train wreck similar to the one in Graniteville four months ago, far more people would be at risk of injury or death, emergency officials say," Fretwell wrote. The Graniteville wreck killed nine people after chlorine spilled from a train in the small community near Aiken. Fretwell found the city of Columbia and University of South Carolina were unprepared to deal with a chemical accident.

On May 1, **Mike Taugher** of the

Contra Costa Times wrote that the Sacramento River Delta's open-water fish populations are mysteriously collapsing – and it threatens to unravel the estuary's food chain. Delta smelt, already a threatened species, fell last fall to the lowest level ever measured. Young striped bass had a similar fall, according to the results of annual surveys by the California Department of Fish and Game. Scientists familiar with the decline expressed varying degrees of concern, but some said they are alarmed.

Osha Gray Davidson wrote April 21 in the *Rolling Stone* about a proposed "Sunset Commission" that would empower the president to create a group "which would systematically review federal programs every ten years and decide whether they should be eliminated." Any agency or program could be automatically terminated unless the Congress took action to continue them. "In practice, however, the commission would enable the Bush administra-

tion to achieve what Ronald Reagan only dreamed of: the end of government regulation as we know it," Davidson wrote.

Mary Kudom-Agyemang wrote a story for the *Accra Daily Mail* on March 31 about a meeting of African scientists in the city in Ghana. One hot topic was tsunamis. Professor Chidi Ibe, regional director of the Guinea Current Large Marine Ecosystem Project, said "the fact that the recent tsunamis that devastated parts of Asia, originated in the Indian Ocean, previously thought to be a non-high risk zone in terms of seismicity ... indicates that no place on earth is actually safe from such calamities." He said "the potential for seismicity is real in Africa and the next tsunamis could take place on the continent."

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