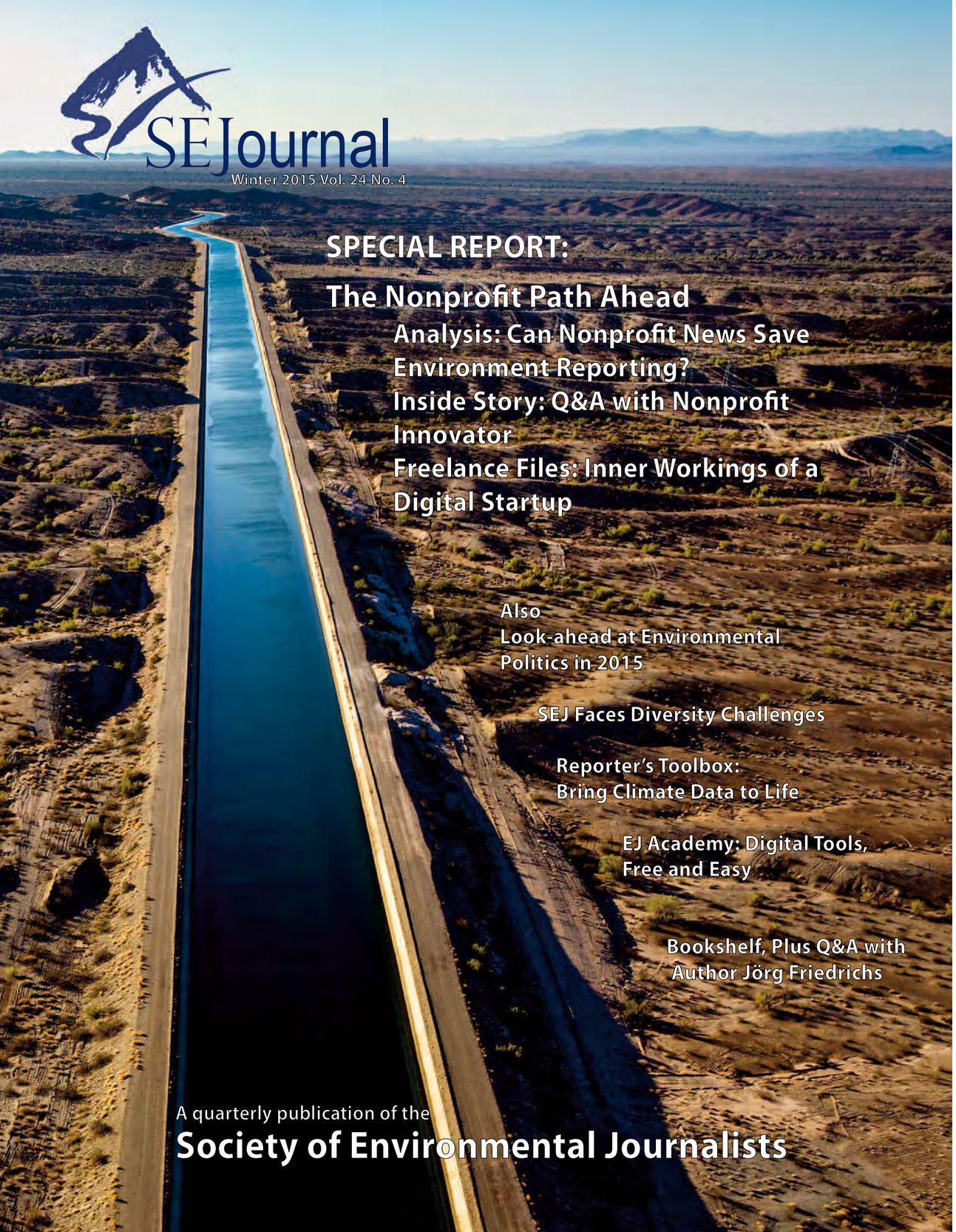

SEJournal
Winter 2015 Vol. 24 No. 4

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The Nonprofit Path Ahead

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The Society of Environmental Journalists (SEJ) is a nonprofit, tax-exempt, 501(c)(3) organization. The mission of SEJ is to strengthen the quality, reach and viability of journalism across all media to advance public understanding of environmental issues. As a network of journalists and academics, SEJ offers national and regional conferences, publications and online services. SEJ's membership of more than 1,200 includes journalists working for print and electronic media, educators, and students. Non-members are welcome to attend SEJ's annual conferences and to subscribe to the quarterly *SEJournal*.

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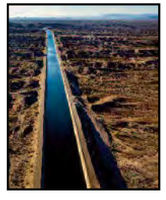

The Central Arizona Project canal transports water from the Colorado River to Phoenix and Tucson, one of many subjects explored in depth by Circle of Blue, a 14-year-old online news organization, honored by the SEJ awards last year, that focuses on water and its relationship to food, energy, and health. To delve deeper, see story on page 14.

Photo: © J. Carl Ganter, Circle of Blue

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SEJournal

Winter 2015, Vol. 24 No. 4

SEJ President's Report

You Are the Heart of SEJ

By JEFF BURNSIDE

It happened with striking quickness.

The letter went out to journalists across America. Just five months later, on February 14th, 1990, Valentine's Day, the Society of Environmental Journalists was formally created. Another five months later, 79 journalists met for the first official gathering.

Happy 25th anniversary, everyone.

Now, together, all of us can honor those 79 by pitching in to expand our membership even further.

We want to use this 25th anniversary year to ask you to carry on the torch of those founders: Help tell the world about the Society of Environmental Journalists and invite journalists, students and academics to join. You are SEJ's best method of growing.

Your membership in SEJ gives you access to added professional skills and insight, a family of colleagues there to help you at a moment's notice, and an annual conference unmatched in the journalism world.

But membership in SEJ does something else as well: It makes a statement.

The size of our ranks, which has climbed to between 1,200 and 1,500, says to editors, publishers, readers, viewers, listeners and citizens that we care about quality reporting of issues of the environment.

Our membership says that a powerful contingent of dedicated journalists is actively representing the desires of many thousands of news consumers who want greater coverage of these issues – in many ways, the most important stories on the planet.

We can't do it without you

The staff and board of directors at SEJ work tirelessly to expand our reach and bring in more members. We do that primarily through our awards for excellence in journalism, which routinely set new records in the number of entries, through attendance at our incredible conference and events, through regional meet-ups from Portland to New York, on social media, in grants from our Fund for Environmental Journalism and more.

You can help reach potential new members for SEJ in several categories:

1) Journalists with an interest in covering issues found along the broad spectrum of environment and energy,
2) Academics who teach, research or write about these issues,
3) Students who want to learn about the field of environmental journalism.

We hope you always take the opportunity to tell people within these vast groups: "You should join SEJ!" Tell them that membership in SEJ will be as important to them as it is to you. That it makes you better at what you do. That it makes a statement to the world about the importance of covering these issues.

The simplest way we can all help bring in new SEJ members is, whenever you see a quality story about the environment, to reach out to that journalist.

It's easy and fun, actually. I usually spot the reporter's email linked to the story, send a short note congratulating him or her on an excellent story, and suggest he or she join the SEJ team.

Imagine if you were on the receiving end of an email from a fellow journalist thanking you for a well-written story and inviting you to join a group of like-minded colleagues.

And it's my strong belief that potential members needn't be on the environment beat full time. Indeed, there are very few of us these days who report solely on the beat. Yet I believe it remains one of the most desirable types of stories that writers and journalists want to cover. So I find they have an intrinsic interest in what we do.

Help raise awareness, funds

You can also help by raising awareness. See a great story about the environment? Tweet it out using the hashtag #sej or get it retweeted to thousands more by including @sejorg. Mention SEJ on Facebook, and come join SEJ's terrific Facebook Group Page, https://www.facebook.com/groups/SocietyOfEnvironmentalJournalists/, where we have over 3,000 members and growing (come click "join" today and get us to 4,000).

Have a speech or lecture scheduled? Mention SEJ in your talk, as Associated Press reporter Seth Borenstein did the other day to a group in Washington, D.C. that was full of potential new SEJ members.

Whenever you do reach out or mention SEJ publicly, let us know. Share your story on the SEJ listservs.

More difficult for journalists is helping to raise funds to keep SEJ going. Still, if you see a person or entity you believe might be interested in supporting our vision statement, send your lead to the SEJ headquarters staff. Just one lead can make a big difference.

I find the easiest way to bring in funds for SEJ is to tell organizations, companies, institutes, NGOs that they can advertise in the *SEJournal* or in the conference program, or buy an exhibit table at the conference.

Just look at your inbox for leads. Tell them "imagine having hundreds of journalists who specialize in environment and energy issues all in one place at one time – there is simply no greater opportunity than at an SEJ conference." It's true. Send an email to HQ with your lead and they'll follow up.

Stats tell the story

SEJ is so fortunate to have SEJ's founding executive director, Beth Parke, as our staff leader still today. I believe she's the reigning queen of professional journalism organizations in the world. Beth recently had lots of fun digging up some statistics about SEJ's 25-year life that she has seen firsthand. Here are some of her tidbits that really should make us all so proud:

• Names on current roster of members	1,211
• All time high number of members, 2009	1,514
• Names in central database at SEJ HQ, current contacts	20,198
• Annual conferences	25
• Conference registrations	14,687
• Largest conference (2011 Miami)	1,038
• Annual conference sessions	846
• Annual conference full day tours	184
• First conference panel on climate change	1993
• Local and regional events organized by members	112
• Stories recognized with top SEJ awards	122
• Net assets reported at first formal board meeting, July 1990	$3,360
• Grants awarded through Fund for Environmental Journalism	$107,230
• Largest operating budget, 2011	$1,014,326
• SEJ operating budget 2014	$878,813

SEJ has survived the turmoil in the journalism industry. Our membership numbers have slipped in recent years. But we believe the turmoil failed to hit us even harder because journalists see such value in SEJ, especially during difficult times.

We bring family. We bring excellence. And with your help this year, we'll set new membership records by the time we convene again for our annual conference in October.

Meet in the bar after the panels. And we'll all conjure up more plans for the future of SEJ.

Foundations and other supporters expand SEJ grant program

Timed wonderfully but coincidentally to our anniversary is a major expansion of our Fund for Environmental Journalism. SEJ's annual round of grants to journalists for reporting projects will now have an infusion of additional grant money thanks to support from the Grantham Foundation for the Environment, Burning River Foundation, Cornelius King Foundation, hundreds of individuals and now the Wyss Foundation.

Not only will the additional grant money allow SEJ to add to the more than $100,000 in mini-grants given away so far, but we will now offer journalists compensation for their time as well as some expenses, travel fellowships to the SEJ conferences and for new, full-time reporting positions awarded to the nonprofit *High Country News* to establish a Washington DC bureau, and the *Los Angeles Times,* for stories from a new bureau based in the West that otherwise would not be funded.

All journalism supported by the news organization grants will be made available free of any charge to the public. When it comes to funded journalism, SEJ is an ideal firewall because we are a journalism organization run by journalists determined to maintain editorial independence for the recipients.

Feature

Panel: Conflict Looms over Environment and Energy in 2015

By JOSEPH A. DAVIS

Clashes between Congress and the White House, a suspenseful countdown to Paris climate talks, a fast-changing energy landscape, and the run-up to a presidential election, amid plentiful environment and energy news – that's what top journalists see in store for 2015.

The predictions came at an annual panel, co-produced in January by the SEJ and the Woodrow Wilson International Center for Scholars in Washington, D.C., that has become a media ritual defining agendas that journalists will work to cover, a kind of gathering of the tribes that draws many attendees from out of town — and players from the non-journalism community. Many listened from an overflow room or watched the livestream nationwide (the entire program can be viewed online at www.wilsoncenter.org/event/the-year-ahead-environment-and-energy-1).

The 2015 stage has been set for some serious conflict, they projected, with control of the Senate (and Congress) changing to Republican hands as a Democrat president pushes forth with executive branch initiatives.

Speaker Neela Banerjee of InsideClimate News saw 2015 as a year for 'setting down markers' for environmental issues in the upcoming presidential campaign.

Photo by Schuyler Null, The Wilson Center

Conflict was also the gist of the keynote outlook presented by Larry Pearl, director of environmental news for Bloomberg BNA. Pearl pointed to conflicts over climate regulations, Clean Water Act jurisdiction, and fracking — conflict between Democrats and Republicans, environmentalists and industry, and the different levels of government.

The scheduled December 2015 international meeting on a hoped-for climate agreement loomed large as a yearlong news generator, not just for Pearl but for most of the panelists who followed. The outcome of the Paris meeting is hardly a given, most agreed.

President Obama's trip to India a few days after the Wilson Center predictions only demonstrated the point. The uncertainty — and the news — revolved not merely around whether there would be an agreement, but whether any "agreement" would be worthy of the name. And, as symbolic Senate amendments on the contentious Keystone XL pipeline bill demonstrated a week later, doubt remained over whether Obama could sell any climate agreement to the Senate.

State pushback on CO2, ferment in food policy, falling oil prices

A star panel of journalists from deep in the trenches followed Pearl — moderated by Douglas Fischer (until recently editor of The Daily Climate and now director of the whole Environmental Health News operation). Each gave a take on what key stories they saw coming up.

Randy Lee Loftis of the *Dallas Morning News,* a 30-year veteran of the beat, talked about expected push-back from many (but hardly all) states over EPA's effort to control carbon dioxide emissions from power plants. He suggested court cases could push any real resolution over to the next administration.

Another panelist, Lisa Palmer, a prolific freelancer, cited ferment in the food-policy arena as signaling a trend toward "connecting the dots" ecologically between extreme weather, soil health, water and food.

Meanwhile, the falling price of oil is "the talk of the town and the industry," said Amy Harder, who covers energy for the *Wall Street Journal.* The low oil price casts a dark shadow over prospects for fuel efficiency and development of renewable and alternative energy. But it also casts doubt over the profitability of many fossil-industry infrastructure development plans — such as the Keystone pipeline. Harder said oil prices were likely to stay low for "a while" and that that would present "a challenge for the green agenda for sure."

Neela Banerjee, who recently moved from the *Los Angeles Times* bureau to Pulitzer-winning *InsideClimate News,* noted the "flashpoints" for conflict between Obama and Congress. She looked at the coming year as a story of "setting down markers" for the 2016 presidential contest.

That, Banerjee said, was what was going on with many of the amendments offered to the Senate KXL bill. She saw much of the "thrust and parry" of GOP politics in those terms, citing Democrats' belief that "you can not be a climate change denier and win in 2016."

Paling beside those issues are the Paris climate talks, which Lisa Friedman, deputy editor of *ClimateWire* and a climate-talks maven, described as the equivalent of the "Superbowl." Even though any Paris agreement remained "a list of maybes," she said, it would likely be "fundamentally different" than any previous climate agreement — if only because it would bring in developing nations as well as developed ones.

Bilateral deals, like the one Obama reached with China in 2014, would be a "huge part" of the final product, she added. Whatever the outcome, Friedman said, the pledged cuts might not add up to enough to avert catastrophic warming.

The science – on climate and more – will be source of intense dispute

Just two days before the Wilson Center panel, on January 21, the U.S. Senate had taken a vote on whether climate science was true. And various panelists agreed science would be an arena of intense conflict in 2015.

Banerjee pointed to a coming EPA study on how fracking could affect water. With many players looking to science to settle important controversies and problems (e.g., neonicotinoid pesticides), she predicted disappointment. "Scientists are not seen by various parties as honest brokers anymore. ... and that becomes enormously problematic when you're trying to develop policy based on science."

Banerjee also raised a key question about how the news media cover the debate among politicians (there's virtually none among scientists). "We can't talk about the way politicians react to science without talking about who is actually funding the campaigns of politicians who now sit in Congress," she said.

"There are so many people who are backed by vested interests — fossil fuel interests — who have a lot to lose if we put a price or a cap on carbon," Banerjee added. "I think the interpretation of science by politicians cannot be divorced from who is funding politicians — and I think that we as reporters often do that. We don't talk about the campaign finance link."

Harder, too, felt that ultimately the political debate was not really about science: "Climate change has become a religion and is no longer a science, at least in the public realm, and I think that is something that needs to be changed."

Agriculture, Banerjee argued, is another vested interest the Obama administration (and perhaps by implication, journalists) remain uncannily silent about. "They've not gone after agriculture, which is the biggest emitter of methane," she said. "They are enormously powerful, and nobody touches ag."

While none of the panelists expected Congressional action on climate this year, many were interested in political support (or opposition) to climate action among various constituencies, especially religious groups, from Catholics influenced by the Pope to the religious right.

Harder said the most important grassroots groundswell she saw was the anti-KXL movement. However the KXL question was resolved, she said, that movement had spread to include many more pipelines in other places. "It really does tell the story of the ... North American energy boom." Friedman added: "For a lot of actors, the Keystone movement is the climate movement."

Joseph A. Davis has been writing about the environment in some capacity since 1977. He directs SEJ's WatchDog Project and compiles SEJ's daily news digest.

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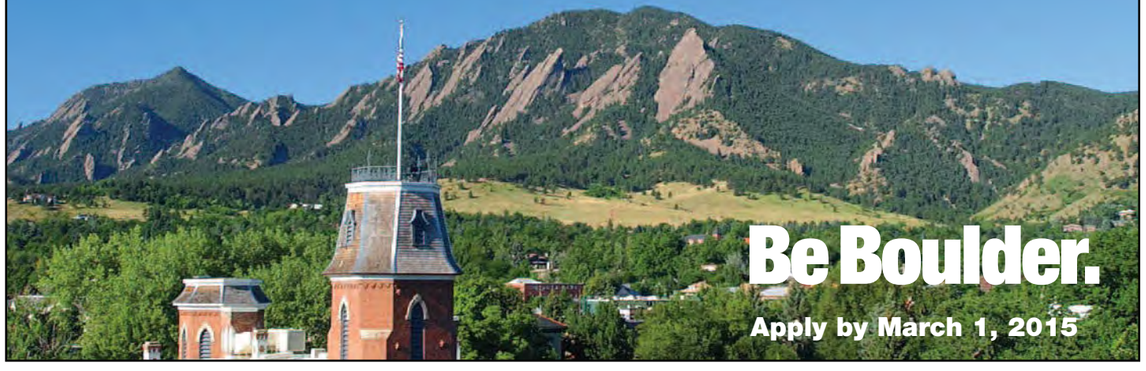

Special Report

Can Nonprofit News Rescue Environmental Journalism?

By ROBERT McCLURE

"Communists!"

It was a damning epithet in the early 1980s, with anti-Castro groups regularly in the headlines and Cuban-Americans increasingly pulling the levers of power in Miami. And it was aimed at … the Associated Press.

The epithet-hurler was a curmudgeon named Frank Eidge, the legendary newsman and wordsmith par excellence at the Miami bureau of United Press International, then a predominant news service. I was a kid just out of college who Frank often oversaw as we covered mass murders, refugees, drug busts, hijackings and all manner of stories that ended up on the national wire.

UPI was (and remains) a for-profit operation. Our competitors at the Associated Press, on the other hand, worked for an organization that was (and remains) a cooperative. In other words, a nonprofit.

I would go on to serve for-profit newspapers, all the while embracing my mentor's pride about working at a place that never had to ask for a handout. How smug I was.

After the decades I spent producing in-depth coverage of the environment, energy and related topics in for-profit journalism, for-profit journalism left me. My last stop, the *Seattle Post-Intelligencer,* went online-only and in 2009 showed 90 percent of its staff to the door.

By then the news industry was in meltdown. Something like $4 billion disappeared from American newspaper payrolls between 2007 and 2013.

So I joined a burgeoning nonprofit news movement that is held up today by some as the savior of in-depth reportage on issues crucial to democracy. But it is also decried by others as a distraction from the important work of making the market again pay for the civic good we call journalism. And the funding troubles at one promising venture, Environmental Health News, have sounded a cautionary note.

Both proponents and critics of nonprofit journalism have some valid points. Let's take a look at where we are headed.

Oh, and I should note that in doing the research for this story I found out that my mentor Frank Eidge was demonstrably wrong about the AP.

Movement grows – no communists here, though

It turns out that AP was founded in 1846, nearly two years before Karl Marx and Friedrich Engels published "The Communist Manifesto." Even more tellingly, the AP was an outgrowth of decidedly capitalist New York newspaper barons who employed Pony Express riders to quickly bring back news of the Mexican-American War. That morphed into the AP.

The next major entry into nonprofit journalism I've been able to find is the *National Geographic* magazine in 1888, followed by *The Christian Science Monitor* in 1908, *Foreign Affairs* magazine in 1922 and *Consumer Reports* in 1936.

The anti-establishment atmosphere of the late 1960s and early 1970s spawned PBS and NPR, *Mother Jones* and *High Country News, The Chicago Reporter* and, in New York, *City Limits* (and this list is by no means comprehensive).

In the aftermath of Watergate, the Center for Investigative Reporting arose in the Bay Area. And an eastern counterpart came online in 1989 in the form of the Center for Public Integrity in Washington, D.C. Others continued to fuel the movement, notably Seattle-based Grist in 1999 and the Voice of San Diego six years later.

A burgeoning nonprofit news movement is held up by some as the savior of in-depth reportage, but is decried by others as a distraction.

But this really became a full-fledged national movement when the Great Recession combined with the increasingly broken advertising model to shred the budgets of newspapers – especially the big ones, the metro dailies that traditionally did so much of the in-depth reporting.

By the time a young, just-promoted executive from the Hearst Corp.'s shiny new $500 million headquarters in midtown Manhattan walked into the *Seattle P-I's* rented quarters (where trains passing just next door made the building tremble) in 2009 to say the paper was "for sale," many journalists nationwide were beginning to realize something.

The slow and sometimes not-so-slow death of newspapers was steadily wiping out what Alex Jones of Harvard's Shorenstein Center on the Press calls the "iron core" of journalism.

New rise of nonprofits seeks to sustain investigative journalism

Jones is talking about the serious news, from what happened at the local zoning board up to piercing investigations that topple governments, and so much in between.

It's the stuff that *The Daily Miracle* used to support with revenue from a mass circulation-model that worked because it was paired with comics and sports and recipes and ads for groceries, real estate and cars.

"Traditional journalists have long believed that this form of fact-based accountability news is the essential food supply of democracy and that without enough of this healthy nourishment, democracy will weaken, sicken, or even fail," Jones wrote in a compelling excerpt (http://ow.ly/J2XjI) of his 2009 book "Losing the News."

Jones continues:

"It is the nation's newspapers that provide the vast majority of iron core news. My own estimate is that 85 percent of professionally reported accountability news comes from newspapers, but I have heard guesses from credible sources that go as high as 95 percent. While people may think they get their news from television or the Web, when it comes to this kind of news, it is almost always newspapers that have done the actual reporting. Everything else is usually just a delivery system… ."

By the time I became a serious student of nonprofit news in 2009, several new organizations were on the rise, among them ProPublica and, in the Twin Cities, MinnPost, both early advisors to InvestigateWest, the organization I now direct.

In rapid succession amid the bust, more than a dozen nonprofit news startups were birthed alongside InvestigateWest. A few months after InvestigateWest first rented an office on April Fool's Day of 2009, we sent co-founder Daniel Lathrop to a gathering of nearly two dozen nonprofit news organizations, old and new, who issued the Pocantico Declaration, which said in part:

"We, representatives of nonprofit news organizations, gather at a time when investigative reporting, so crucial to a functioning democracy, is under threat. There is an urgent need to nourish and sustain the emerging investigative journalism ecosystem to better serve the public. "

Fast-forward six years.

The Investigative News Network, a clearinghouse and advocacy organization for the nonprofit news movement, grew out of the Pocantico Declaration. Headquartered in the Los Angeles area, INN today includes about 100 nonprofit news organizations, from behemoths like the Center for Investigative Reporting, with a newsroom of 40, to one-person operations.

In fact, so popular has the nonprofit model become that INN members include many shops that aren't really doing investigative work. But to a one they exist to continue to provide that iron core of journalism. In recognition of the new reality that so much serious journalism is now under the nonprofit umbrella, the INN board is announcing that it is changing its name from the Investigative News Network to the Institute for Nonprofit News.

Long-term sustainability of new ventures in question

Many questions remain, though. The crucial one is whether these organizations are sustainable in the long run. Notwithstanding the longtime success of the likes of NPR and PBS (who now face their own funding challenges), it's not clear how long the foundations that have provided the lion's share of the startup cash for this movement will stay motivated enough to keep supporting it.

INN Executive Director Kevin Davis traces the decline of newspapers to before the days of the internet, when publicly traded corporations bought out family-owned operations with local roots and ties. But the internet didn't help.

"On the commercial side is a barrage of technology changes, shifts in user behavior and a total dismantling of the business model that supported high-quality journalism in the commercial sector," Davis said in an interview with *SEJournal.*

"Commercial media as a result has pulled back. They're not pulling back on sports and entertainment. They're pulling back on civic and environmental journalism and educational journalism."

He acknowledges that funding challenges remain.

Perhaps the best recent example of that in the environmental journalism arena is the cutbacks announced late last year at Environmental Health News and The Daily Climate, both online news sites founded alongside the large crop of new nonprofit news sites – and ones I considered bright spots in this nonprofit movement.

They announced just before Thanksgiving that they would be laying off longtime enviro-reporter-extraordinaire Marla Cone, formerly of the *Los Angeles Times,* as editor of EHN, along with five others (Cone was later hired by *National Geographic)*. And long-

Sue Crump, here being greeted in the hospital by her daughter Chelsea, worked for 23 years as a chemotherapy unit pharmacist, mixing the toxic chemicals that save lives, before she herself succumbed to cancer, like many other former workers in chemotherapy. Their story, reported by InvestigateWest, was directly responsible for Washington becoming the first state in the nation to regulate chemotherapy drugs as a workplace hazard, and led to a law requiring the state cancer registry to record information about cancer patients' occupations. Photo: © Paul Joseph Brown, InvestigateWest, ecosystemphoto.com

time former CNN editor Peter Dykstra, publisher of EHN and Daily Climate, went part-time and now oversees a weekend edition "featuring analysis, commentary and the week's top news."

This was especially disturbing because the whole operation is headed up by Pete Myers, the longtime former head of the W. Alton Jones Foundation before founding Environmental Health Sciences, publisher of both EHN and Daily Climate. I wondered: If a guy as well-connected in the philanthropic world as Pete Myers is struggling, what's a former reporter like me to do?

I couldn't find Myers on deadline but I did talk to Douglas Fischer, who is now director of both Daily Climate and EHN. Fischer, who serves on the SEJ board with me, told me that until the downsizing he had done little to no thinking about how the operation was funded.

"I was asleep for six years," Fischer said.

The case for commercial news

Now it's Fischer's job to figure out how to fund it and run it.

"It was just getting to a place where it was unsustainable." Fischer said. "Enterprise journalism as we were doing it was unfunded. We felt we had to pare back and now monetize our journalism to make it work. My job now is to go out there and find money for journalism."

Yep. Mine, too. And it's hard.

So if this movement is to truly provide an ever-increasing share of the "iron core" of journalism, who is going to pay for it? It's an important question that those of us inside the movement are constantly exploring.

But some say philanthropists never should have supported the movement in the first place.

A leading critic of the nonprofit news movement is Jeff Jarvis at the CUNY Graduate School of Journalism, who is better known as founder – albeit a short-time resident – of *Entertainment Weekly.* He begged off an interview request, explaining he was out of the country.

But Jarvis explained his reasoning pretty well in a number of posts on his buzzmachine.com site. Here's an example:

"On a trip to Silicon Valley with my new dean, Sarah Bartlett, I heard technology people express concern about the state of news. That is good of them, for they have had a role in the disruption of news—and I'm glad they have. Now they need to consider taking the fruits of their technology and the innovation, efficiency, productivity, profitability, and wealth it has created and turn some of it and their attention toward the good of society and perhaps, with it, journalism.

"But not as philanthropists. That was my plea to them. We in journalism need them to bring their innovation and investment to news, to teach us how to see and exploit new opportunities to improve news and sustain it."

He is perhaps best known, however, for this Tweet:

"Every time a rich person gives to a news nonprofit, a journalism startup loses its wings."

And Jarvis is far from the only thoughtful person to question the advisability of the nonprofit news movement.

Educating the public on where news comes from

They are making some valid points.

As a person who paired his journalism major with an economics minor, I pine for the time when the market provided this essential service to democracy, this "journalism for the common good," the phrase we've adopted as InvestigateWest's informal motto.

Even INN's Davis admits that the challenges are manifold. For one thing, nonprofit news shops tend to be in the same major markets where decent for-profit operations hang on. Yet there is little coverage of the outback.

"How we serve underserved communities where the communities themselves are unable to serve these nonprofits is a problem we have yet to tackle," he said. And yet, the for-profit sector never did that particularly well, either.

Davis, a veteran of for-profit media like me, remains optimistic because he says nonprofit journalism's core values "are focused on civic ROI [return on investment] versus commercial ROI, which we think makes it viable for the long term."

Above all the challenge is sustainability. Are Americans willing to pay for news that sustains democracy? Davis acknowledges that most people don't put journalism in the same bucket as the opera, the homeless shelter and the animal-rescue operation.

"Most consumers of news – nonprofit news or otherwise – aren't asking the question: Where is the news coming from? How does this news organization get funded and should I care?" he says. "So we have a lot of work to do on educating the public, educating people in the foundations and the philanthropy space, and carving out a niche for ourselves in the long term."

Robert McClure is executive director of InvestigateWest, which is pioneering the concept of a journalism studio for the Pacific Northwest focused on the environment, public health and government accountability. He serves on the SEJ board of directors and as chairman of the editorial board of the SEJournal.

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Freelancers as Founders

Potential, Pitfalls of Digital Journalism Startups

By AMY WESTERVELT

Six years ago, a fellow freelancer asked me if I'd be interested in contributing to a new online journalism venture.

It wouldn't pay much to start, but it was by journalists for journalists and we were gonna take things into our own hands and figure out this whole digital media business model once and for all.

We tried everything. We brought on famous (to us) writers; we created a membership structure that included prizes for various levels (it's true! before Kickstarter!); we dabbled with advertising and launched an aggressive social media campaign.

And ultimately, we failed.

There were too many writers to feed and we couldn't grow our subscriber base quickly enough to match.

A year later, as the managing editor of an environmental journal, I worked with crowdfunding journalism startup Spot.us to augment our paltry rates and pay great reporters what they were worth ... or at least closer to it. Eventually, Spot.us closed shop, too.

Over the past few years, I've supported half a dozen friends' book and film projects on Kickstarter and Indiegogo to varying degrees of success.

So when Dan Fletcher, a former *TIME* and Facebook staffer who had co-founded a journalism startup called Beacon, approached me about starting a reader-funded blog on his site last year, I said sure with enthusiasm, but very little optimism.

Nothing they were doing sounded dramatically different than what I'd seen before. But five years and various failed attempts after my first crowdfunding experiment I still liked the idea of journalists trying to figure out the business side for themselves.

Selling our 'orphans' went better than expected

With very little selling on my part, I managed to get 30 "subscribers" who paid me a total of around $100 a month for four stories. It was peanuts, but it was also a place where I could put stories killed at the last minute, rants I'd been mulling, interviews that had wound up on the cutting room floor or breaking news I couldn't pitch quickly enough to another outlet.

When another environmental journalist, Celeste LeCompte, mentioned she was considering a Beacon blog too, we got to talking about banding together. It turned out Fletcher had already been thinking about content hubs and group projects.

We put a call out for additional reporters and rustled up four more environmental reporters – Mary Catherine O'Connor, Josie Garthwaite, Ucilia Wang, and Erica Gies.

In the beginning we all thought of it in roughly the same way I'd first thought of my solo blog. We could put our orphans there – blessed darlings that had been cut or killed.

Beacon had changed its launch model, opting for time-limited campaigns along the lines of Kickstarter rather than ongoing fundraisers. That meant we had to figure out early on how much we wanted to pay ourselves for stories.

Climate Confidential's team of journalists (clockwise from top left): Amy Westervelt, Ucilia Wang, Celeste LeCompte, Erica Gies, Mary Catherine O'Connor and Josie Garthwaite. Photo: Dan Fletcher, Beacon

Initially we agreed that $100 each would be fine. Then we realized we were being ridiculous and bumped it up to $500 (and later to $650), setting our initial fundraising goal at $20,000.

Finally, we picked a name – Climate Confidential.

Then we had to get down to the business of selling ourselves, which we turned out to be better at than we'd anticipated.

Plenty of mentions, and some surprise donors

Each of us reached out to organizations and companies we'd worked with over the years, friends and family members, and media outlets we thought might be interested in what we were doing – ours was the first group to fundraise on Beacon; we were focused squarely on the intersection of technology and the environment, and we were all women.

There was enough there to get us some mentions, plus the Beacon guys were getting a fair amount of their own press, and mentioning us every chance they got. A few weeks in, we'd had mentions in the *Columbia Journalism Review, Yale Climate Connections, Tech Crunch,* and *The New York Times.*

One company – Intel – gave us $5,000 as a launch sponsor. We made it abundantly clear that they would have no input editorially, offering them the chance to have a presence at our launch event instead.

One family member stumped up for another $5,000 package, then three separate individual donors joined in – each at the $5,000 level and each unknown to us.

Two turned out to be serial investors in journalism experiments; women who had worked in journalism and who now had the means to support new endeavors. The third was a National Renewable Energy Lab scientist who liked the idea of targeted technology and environment coverage, and wanted to give us the inside scoop.

Between the big sponsors and the hundreds of subscriptions we sold (more than 800), we raised nearly $47,000 in our launch month – clearly teaming up made us more successful than any one of us would've been alone.

Getting down to business; lessons learned

At that point we realized we needed to do this for real. We quickly set about figuring out an editorial structure that would enable four of us to write each month, while two managed editorial and promotional duties.

We set an editorial calendar. We created our own off-Beacon website. And then we started thinking about how we could turn it into a sustainable project. We still haven't figured that out, but we've learned a lot along the way:

● **Lesson One:** Your content is your most valuable asset — use it in multiple ways. Just as individual freelancers will occasionally take low-paid assignments to boost their visibility, we saw an opportunity to use some of our content to raise our profile, releasing one story per month to the Creative Commons.

The Creative Commons license allows others to share our work for free, but not sell it or publish it without credit. These stories got picked up by multiple publishers, including *The Atlantic, Scientific American, Smithsonian,* and *Pacific Standard.*

Climate Confidential co-founder Amy Westervelt, speaking at the organization's November 13th "Food Fight" in Brooklyn. Co-hosted by *Modern Farmer* and *Popular Science,* the event featured a series of discussions about cultured meat—meat created in a lab rather than on a farm—incorporating experts and stakeholders on all sides of the issue, including researchers, ranchers, tech CEOs, chefs and sustainable food experts. Photo by Mariya Pylayev, Climate Nexus

That, in turn, enabled us to go to other publishers with the idea of exclusively co-producing features with them. These stories are released on our Beacon site and on the co-publisher's site at the same time. Co-publishers pay us their going rate for a web story, which enables us to augment the pay the writer receives and supplement the Climate Confidential general fund as well.

● **Lesson Two:** You can't escape the business side. Most journalism projects that fail do so because no one is willing, or able, to take on business development. It's hard for most journalists to put on the sales and marketing hat.

We were lucky to have a few of these skills in our team, but it wasn't something we thought about in the beginning, which could have been a real problem. In addition to the skills, you need to have the time – lots of it, unpaid – to devote to growing your business.

● **Lesson Three:** Don't be afraid to try everything and fail often. Like any other startup – maybe even more so given that we're up against an entrenched and failing system – journalism startups need to be relatively fearless in their approaches. That means a lot of failure, testing boundaries and, occasionally, success.

We've tried everything including events, partnerships, newsletters and social media pushes, and are now mulling the ideas of accepting advertising, moving to a new platform, selling single issues or stories and offering a mobile app.

Funding options have grown

These days there are more options available to journalists looking for new ways to fund their reporting habits.

Beacon, Indiegogo, HatchFund, Kickstarter and Patreon all allow individuals and groups of journalists to raise funds, either one time for a particular project, to augment a project (SEJ-er Daniel Grossman raised $18,000 on Indiegogo recently to cover travel expenses for an oil sands reporting project, for example), or in an ongoing capacity.

Note that while most crowdfunding sites make you set a target and only fund your work if that target is reached, IndieGoGo gives you the funds raised, minus an additional fee if you don't meet your target.

Then there are nonprofits funding reporting (see our separate features on nonprofits, starting page 8). The Food and Environment Reporting Network (FERN), for example, pays writers $1 a word for long features, which it then places in national media outlets.

Some reporting groups, like The Story Group, have cobbled together crowdfunding and nonprofit foundation support, each fueling the other – foundations like the reader support evidenced by successful crowdfunding; readers like the credibility that foundation backing brings; both like that their dollars stretch further.

Whatever you decide to do, know that it will be a lot of work, but that work can pay off.

Amy Westervelt is a writer and editor covering the environment, health, tech and business, primarily for The Guardian UK *and* The Wall Street Journal. *Her work has also recently been published by* Fast Company, Smithsonian, *and* Sierra magazine. *In 2007, she won a Folio Eddie for her feature on the potential of algae as a feedstock for biofuel. Her website is amywestervelt.com.*

Inside Story

Old-School Reporting in a New-Style Package

Nonprofit 'Pro-Water' Site Brings Ground Journalism, Striking Visuals to Bear on Complex Global Stories

*As part of S*EJournal's *look at the future of nonprofit news services, our "Inside Story" editor Beth Daley spoke with J. Carl Ganter, director of Circle of Blue, a team of journalists and researchers headquartered in Michigan that reports on the global intersection of water, food and energy. The nonprofit recently won two recognitions in SEJ's 13th annual awards — a second-place award for Ganter, Matt Black and Brian Lehmann's evocative, intimate images of the world's quest for water, and a third-place prize for reporter Brett Walton's timely, clear writing on competing interests for water in three Western states. Ganter, whose photography and reporting has appeared across media including* TIME, National Geographic, Rolling Stone, *NBC5 and public radio, co-founded the news group in 2000. He's a Northwestern graduate and was part of a team that broke the first story in the series of wrongful conviction cases investigated by Medill students. He also taught multimedia bootcamps for eight years at the Poynter Institute. Since then, he has received the Rockefeller Foundation's Centennial Innovation Award in 2012 and is a member of the World Economic Forum's Global Agenda Council on Water.*

SEJournal: When did Circle of Blue launch and why?

J. Carl Ganter: When our daughter was born 14 years ago, my wife, Eileen, and I wondered what the world would be like for her generation. We asked ourselves what would be the big story of her lifetime, what could we do to help inform some of the most important decisions of her time. Our first grant came from the Ford Foundation in 2006 to do a multimedia project in Mexico. We wanted to show how one community, Tehuacan, was a crucible for the fast-emerging global water crisis. We brought in World Press-winning photojournalist Brent Stirton and *Newsweek* cover writer Joe Contreras. We peeled back the layers of an intensely complicated issue and the results were published by nearly every major Mexico news outlet. We proved our capabilities to cover tough stories — in-depth, and fast.

SEJournal: From where does your funding come?

Ganter: Circle of Blue is an independent, nonprofit affiliate of the Pacific Institute, a California-based think tank on climate and water. Our funders include the Rockefeller Foundation, the David and Lucile Packard Foundation, the William and Flora Hewlett Foundation, Energy Foundation, and the Charles Steward Mott Foundation.

SEJournal: Describe Circle of Blue's mission and goals.

Ganter: Our core coverage is water and the competition between water, food and energy. These are the planet's big stories, and they are fiercely complicated. They aren't just a click away. We believe in old-school reporting, which we call, "IWT," or, I Was There. You have to go to the mines of Inner Mongolia or the fields of Punjab to dig out the stories, capture the data, and show the context. Then we physically convene around our findings. For example, in China we sent four teams across the country and found that the country doesn't have enough water to continue mining and processing coal. This is likely the largest threat to its GDP. We partnered with the Wilson Center, a nonpartisan think tank and convening center in Washington, for research and presentations. Together, we did 17 sessions across China, from presentations for the China Minister of Water to the U.S. Embassy to the Yellow River Commission.

SEJournal: How many staff members do you have, i.e., how many editors, reporters, etc.?

Ganter: We have a core team of eight people and ramp up for major projects. For example, we had about 40 working on the Choke Point: China project. This included photojournalists, reporters, editors, designers, interns from Northwestern's Medill School of Journalism, and graduate students in design at Ball State University.

SEJournal: How do you keep your reputation as an objective, unbiased organization?

Ganter: We avoid the term "advocacy journalism," but of course, I'm pro-water. It's imperative for us to maintain and protect our trust, credibility and objectivity. Our reporting is crisp, we ask tough questions, and we do what good journalism is designed to do: reveal new ideas, present unbiased accounts, and compel informed response.

Circle of Blue, as part of an investigation of the extensive manmade river that will move water from central China to Beijing, captured views of the massive infrastructure of the South North Water Transfer Project, like this aqueduct under the Yellow River.

Photo: © Aaron Jaffe, Circle of Blue

Pollution is a major driver of water scarcity in China, especially in the places where economic growth is the highest and water resources are under the most stress, such as this canal in Beijing, photographed as part of a series called "Choke Point: China." Photo: © J. Carl Ganter, Circle of Blue

SEJournal: When is a nonprofit journalism venture such as Circle of Blue able to call itself sustainable?

Ganter: I would bet that most nonprofit journalism organizations face a continual sustainability challenge. It's hard to build an endowment, and it's difficult to be cumulative with the way most foundations operate. The big questions that worry me are: Can philanthropy keep up? Can nonprofit funders support the work necessary to inform our generation's most urgent, important decisions? Will foundations and philanthropists continue to value great (and often costly) reporting when the world is filled with clutter and shallow streams of dubious information? Funding has to be systemic and as persistent as the challenges.

For our big take-outs, we assemble several funders, and in parallel raise support for daily reporting and operations. Funders need to understand these issues are complicated, they are not a click away, you have to be persistent, and you have to be on the ground to do the real work. Considering the gravity of the global situation, it's important to stay focused and not go down rabbit holes of meaningless stories. Aggregation, Twitter streams, stock photos, and crowdsourcing alone don't provide an accurate picture. In some cases, we've accepted funding from companies, but are very careful to maintain independence.

SEJournal: What can nonprofit journalism accomplish that traditional journalism cannot?

Ganter: For us, we've been able to be laser-focused on what we feel is the biggest ongoing story of our careers. We were first to report China's serious coal-water issues, and our work consistently leads and drives other media coverage. In the nonprofit world, we have to be more innovative and selective about what we cover. We also have the flexibility of being more mission-driven where we might not be able to generate advertising revenue around such critical issues. Our audiences may not be huge, but I'm most interested in who's clicking rather than how many people are clicking on our work.

SEJournal: Should we be striving to promote nonprofit journalism when for-profit still provides so much content? Why?

Ganter: Journalism — without fear or favor — is critical for democracy to survive. Many of the for-profit outlets more and more are driven by ratings and pageviews, and they don't have the expertise, tenacity or airtime to take on these persistent problems. We live in one of the most disruptive periods in history and face massive challenges. Journalism is one of the few tools that can shift a dangerous course by providing transparency, holding truth to power, and creating empathy and understanding. We need dedicated journalists across all spectrums and funding models.

SEJournal: Your website is notable for its striking visuals. How carefully do you conceive stories around or with photography, multimedia and infographics?

Ganter: I started hanging out at *TIME* Magazine and Contact Press Images when I was 16. Growing up around the world's best photojournalists, I learned that the power of a single image can change the world. For our bigger projects, whether in India, California or China, we assign top photojournalists to capture the life-moments behind the stories, from a shepherd family that lives in the shadow of coal fields in Inner Mongolia to the Central Valley in California. And we live in an age where data can be beautifully presented and interactive.

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Extensive reporting on the dwindling underground water supply in the United States yielded images of center pivot irrigation systems like this one near Edson, KS, which have drawn up more water from the eight-state Ogallala Aquifer than flows down the Colorado River. The nonprofit newsroom found that the $30 billion agriculture and livestock industry that produces one-fifth of the nation's corn, wheat, and cattle faces a new era of reckoning as it moves toward decisions on water use, crop yields, and profits that have been put off for decades.

Photo: © Brian Lehmann, Circle of Blue

Water spurts from a fresh well near Sublette, KS, that was drilled by a contractor working around the clock to punch new holes in the Ogallala Aquifer. Circle of Blue reported that the Ogallala, the primary water source in the Great Plains, is declining as billions of gallons are pumped out each year to irrigate corn, sorghum, soybeans and wheat.

Photo: © Brian Lehmann, Circle of Blue

SEJournal: How do you choose what to cover?

Ganter: We listen hard for emerging trends. We cover news every day and try to connect the dots. We think systemically and are intensely curious — if a story is emerging in China, we wonder how it will affect mining investments in Australia. We also use our own Twitter feed to curate headlines and what we think is important. Last summer we published Choke Point: Index, an in-depth look at the U.S. water and agriculture challenges. These stories came from on-the-ground reporting and listening hard for the most important angles.

SEJournal: What would you consider the most underreported water stories journalists are not pursuing?

Ganter: Water affects everything and it's easy to drown in information and miss the connections. You have to pick a place to start reporting and apply the rules of solid journalism — make it personal, ask the usual questions about heroes, victims and villains, and follow the money. For a global story, water is also the most local. If you are a local reporter or a beat reporter and want to cover water, learn about local pollution issues, Superfund sites, ground water use and quality, and infrastructure investments. There are inspiring features to be written and hard-hitting investigations.

SEJournal: What advice would you give reporters to pursue these stories?

Ganter: Water — or any of these big resource issues — can't be reported in a single story. These issues are ongoing and require persistence, tenacity, and creativity. It's disappointing to see that the typical environmental beat has faded from most traditional news outlets. It takes collective knowledge and experience to make the big stories of our time — water, climate, energy, agriculture — relevant, personal and valuable.

In a report on the largest rice and wheat producers in India, Circle of Blue focused on Punjabi farmers whose use of free water and energy is causing food waste and power shortages in India. Photo: © J. Carl Ganter, Circle of Blue

"Inside Story" editor Beth Daley is reporter and director of partnerships at the New England Center for Investigative Reporting, a nonprofit newsroom based at Boston University and affiliated with WGBH News.

Delhi's crowded skyline is topped with thousands of private water tanks that supply the city of 22 million, but Circle of Blue's investigation found corruption, bureaucracy, pollution and scarcity are causing ongoing water crises across the country. Photo: © J. Carl Ganter, Circle of Blue

SEJ Struggles to Achieve Long-Standing Diversity Aims

Upcoming Oklahoma Conference an Opportunity to Reflect Native Presence

By Talli Nauman

When a documentary crew came to the Mandan Hidatsa Arikara Nation in New Town, ND, last fall to report on fracking's impact at the center of the booming Bakken oil patch, one interviewee was bitterly disappointed.

Jodi Lee Spotted Bear, the executive director of the tribal government's newspaper and radio station, complained that the crew, while multi-ethnic in makeup, "didn't know a damn thing about Indian country." Added Spotted Bear: "It's so important to get people in there who know what they're doing. … You need to do your homework."

Jodi Lee Spotted Bear, executive director of the Mandan Hidatsa Arikara Nation's newspaper and radio station in New Town, ND. Photo: courtesy Jodi Lee Spotted Bear

For Spotted Bear, and those in the ranks of the Societ of Environmental Journalists, diversity in environmental reporting has long been a concern. Over the organization's 25-year history, its staff continually has asserted a two-pronged approach to inclusive coverage on the beat: fostering increased involvement of journalists from diverse communities, while improving the performance quality of media work in these communities.

"The demand for addressing diversity and practicing more inclusive journalism has been glaring," notes SEJ's 2013 Guide to Diversity in Environmental Reporting (http://bit.ly/SEJ-diversity). "The need is longstanding for greater participation by and coverage of the perspectives of women, racial and ethnic groups, age groups, and people of various orientations, abilities and geographies."

The organization hopes the diversity concern will have its day in the sun at the upcoming annual conference Oct. 7-11, 2015, in Norman, OK.

Conference Co-Chairs Sarah Terry-Cobo and Nancy Gaarder agree that the event should reflect a clear "sense of place" in a state where 39 tribal governments contribute more than $10.8 billion to the economy and the standard vehicle license plate is emblazoned with "Native America."

Key players from the Native American community at the conference host University of Oklahoma and from the state and federal government "have invested time and thought in guaranteeing that our tours incorporate Native American concerns," Gaarder added. "They had done a tremendous amount of work before we even arrived for the site visit."

As a result, most of the 10 planned conference tours air Native American viewpoints on matters such as food security, land and water rights, water quantity and quality, she said. Native Americans Vicki Monks, Lenzy Krehbiel-Burton and Rebecca Lansberry are among organizers of tour groups.

Lansberry, the membership and communications manager at the Norman-based Native American Journalists Association, or NAJA, has been working with SEJ Annual Conference Director Jay Letto and Membership Chair Kate Sheppard on outreach to involve her organization's constituents.

Goal to have diversity 'part of every discussion'

While the conference effort builds on previous SEJ members' legwork to recruit American Indian members and to beef up coverage of environmental issues both on reservations and in urban areas, it's by no means the organization's only diversity initiative.

For instance, Membership Chair Sheppard's "priority" is working up a list of Latino and other reporters of diverse backgrounds to recruit for membership, she said. And African American environmental journalist Brentin Mock is championing diversity by advising conference organizers on practical ways to counterbalance societally ingrained patterns of status and privilege.

"The goal of diversity is not just to bring in people of color to talk about environmental justice, racism or diversity itself," Mock explained. "The goal should be to have them a part of every discussion, every panel and every topic, not just those that deal with race."

One conference tour proposal includes a visit to Oklahoma's historically black Langston University in Langston, OK. Staff at SEJ met with academic leaders to make sure Langston students have easy access to the annual conference, following up on contact made by SEJ board member Roger Witherspoon, a founder of the National Association of Black Journalists, or NABJ.

In the process, SEJ also brokered an informal partnership between the University of Oklahoma's Gaylord College of Journalism and Mass Communication and the much smaller Langston. "It's my hope this will lead to a lasting relationship even after we leave," said Gaarder.

Calling the State of Oklahoma "itself a living breathing incubator for diversity," Gaarder added her hope that the 2015 conference will result in fruitful multicultural relationships and new SEJ mem-

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Reporter's Toolbox

Climate Explorer Brings Data to Life

By JOHN UPTON

It's a trashy publisher's cheap dream: An environmental journalist field reporting from their desk.

A new White House website allows you to do that — to meander along inundated shorelines, through bustling cities and over blacktopped freeways, and to do it without getting muddy, mugged or mowed down by a semi.

Yawn. You don't need the feds to help you do that. An intrepid scribe could do more with a bus fare or a quarter tank of gas than with a 30-minute date with a government website.

Here's the thing, though. Do you have an environmental time machine? I ask that because the U.S. government has one. And riding it into America's climate-altered landscapes is free.

Visualization tool uses info from 13 agencies

Climate Explorer is a visualization tool that brings to virtual life the climate- and weather-related data generated by the 13 federal agencies that collaborate to form the U.S. Global Change Research Program. Its cartographic interface is a portal into much of the same data that went into producing the most recent National Climate Assessment.

The explorer visualizes details of the present, such as drought, population density, and how land is used, and it digitally reconstructs future environmental conditions, such as submerged sand dunes and greenhouse gas-amped heat waves.

Climate Explorer was released by the White House in late 2014 as part of President Obama's climate resilience thrust. The release coincided with publication of a 46-page laundry list of climate adaptation recommendations compiled by a task force comprising local, regional and tribal officials.

The online tool is a key component of the U.S. Climate Resilience Toolkit, which is a website, found at toolkit.climate.gov, containing case studies and other information designed to help Americans understand climate change, adapt to it, and become more resilient to disaster. The toolkit looks like it could be useful to some people, which is neat.

But what we want is the Climate Explorer, which involves scrolling down the toolkit's homepage, clicking on Climate Explorer, and then clicking "Launch Climate Explorer." If you prefer excessive keystrokes over excessive clicks, you can go straight to this URL: http://toolkit.climate.gov/climate-explorer/

If you're following along, your eyes are darting between this page and a map of North America. Hold down the mouse button to drag the map. You can zoom in and out with the 'plus' and 'minus' icons. If you're using the correct type of device, you can pinch your fingers to zoom out — and the opposite to zoom in. Clicking the link icon in the top left creates a link for an exact replica of the map that you're looking at.

Historical info, layers enrich map

I imagine you would have figured all that out yourself — just like you would figure out how to click your own seatbelt without the in-flight safety presentation.

But here comes the stuff that I might not have been patient enough to have figured out for myself, were it not for a brief presentation from White House staff.

Climate Explorer has two main components, either of which can be selected from the top right corner of the page.

Clicking on "historical data" populates the map with weather stations. Click on one. Temperature and precipitation measurements

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The Climate Explorer at toolkit.climate.gov reveals where a rising sea level would have its greatest impact. An increase of five feet would inundate large areas along Boston Harbor and the Charles River, including most of the MIT campus in Cambridge, MA. National Oceanic and Atmospheric Administration (NOAA)

EJ Academy

Digital Tools - Free and Easy for EJ Educators, Students

By SARA SHIPLEY HILES

Digital journalism tools offer an array of options for educators looking for new ways to liven up the classroom and tell stories better.

But not everyone has the resources or technical know-how to produce glamorous Snowfall-style pieces a la *New York Times*. Happily, there are plenty of solutions for making stories more interactive and compelling – at a price point even starving students and thrifty professors can handle.

We're highlighting three free digital tools recently used by SEJ academic members for student journalism projects. All of them are ready to plug-and-play in your next awesome project. And as a bonus, check out our resource list on page 26 for even more digital ideas.

By clicking the slider control in the center of the image and dragging it left or right, major landscape changes near Charlevoix, MI, between 1965 (MSU Aerial Archive) and 2014 (Google Earth) are clearly revealed.
Photo: courtesy Great Lakes Echo.org

Photo slider provides before-and-after effect

David Poulson, senior associate director for the Knight Center for Environmental Journalism at Michigan State University, recently implemented two new tools that work beautifully for environmental storytelling.

The first is a photo slider tool called TwentyTwenty (http://zurb.com/playground/twentytwenty) that allows one image to be superimposed over another. The reader slides a bar that allows a dramatic comparison between one photo and the other.

Poulson's students last semester used the slider in stories about land-use changes: sprawl, forest fire and the impact of a cement factory. Students first had to find historical aerial images and then find the exact same land area now on Google Earth. The two photos then had to be resized and overlaid in the slider. The resulting effect allows for exact before-and-after comparison.

Poulson describes the slider as "an alternative story form that augments a traditional one."

While looking for landfills across the state, student Nyla Hughes noticed a significant land-use change in the Upper Peninsula. "With the help of the staff in the geography building on campus, I came across a photo of Charlevoix, Mich., during the 1960s and noticed a huge difference between the past and present," she says.

The land around St. Mary's Cement Co. used to be filled with trees. Now, it's full of landfills for cement kiln dust. The slider perfectly illustrates the difference (see http://bit.ly/1DTbDe4)

Another story examined how a fire changed the landscape (see http://bit.ly/1IwxCyi)

Student Kevin Duffy looked at forest regrowth after a fire burned through more than 21,000 acres in the Upper Peninsula. He found a 1983 black-and-white image of the area in Michigan State's aerial archive and compared it to a 2013 satellite image from Google Earth.

The earlier photo shows dense forest, while the newer one shows open areas caused by the fire. "The change was immediately visible once the photos were overlaid and the slider implemented," Duffy says.

Setting up the slider was easy, Poulson's students say. There's a dedicated plug-in on WordPress for those who use the popular publishing software, and the code is also available for other websites.

Getting the images and preparing them for use was the hard part. The archive image needs to match the new image exactly. A sharp eye and some photo-editing software are needed to line up, crop and size the photos to perfection.

Student Juliana Moxley, who used the slider to show suburban development over time, found the tool to be effective and not too difficult to learn.

"I think the slider tool is a great storytelling device," Moxley says. "Your words can only explain so much. With the slider tool, journalists are able to give viewers an exact image of what they are trying to explain and it can make a larger impact on readers compared to only using text."

Interactive timeline serves as visual handoff for future students

Another new tool Poulson tried last year was an interactive timeline called TimelineJS (http://timeline.knightlab.com/). The Knight Lab at Northwestern University developed the free, open-source tool that's been used by publications including *TIME* magazine and *The Denver Post.*

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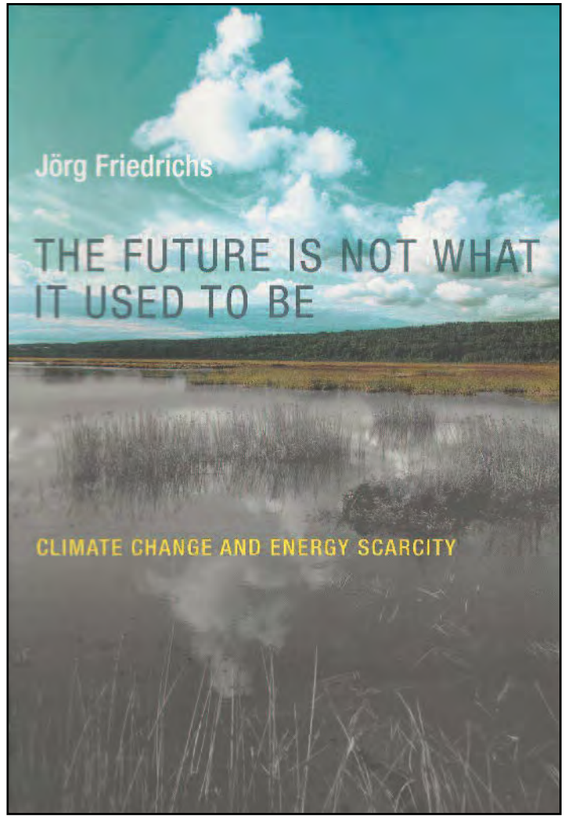
Between the Lines

When the Cure Is Worse Than the Disease

For the latest Between the Lines *– a question-and-answer feature in which published authors provide advice to SEJ members –* SEJournal *Book Editor Tom Henry interviewed Jörg Friedrichs, author of "The Future Is Not What It Used to Be: Climate Change and Energy Scarcity," which received an honorable mention in the Rachel Carson Environment Book Award category of SEJ's 2014 annual awards contest. The book offers a unique perspective by explaining how transitions between climatic eras of the past are unlikely to happen again because infinite growth is not possible. Friedrichs, a native of Germany, is an associate professor in politics at the University of Oxford in England.*

SEJournal: Your book suggests the support structure for the industrialized world itself could be in danger of collapse. How did you identify that theme and what motivated you to write the book?

Jörg Friedrichs: With all the knowledge around, and with all the arguments made back and forth in the climate controversy, I felt that there was a lack of serious thinking about what it all means for our way of life. True, there are apocalyptic scenarios about environmental mayhem, and others have taken a historical approach before me. But much of that literature is either purely academic or plainly alarmist, and I wanted to provide a sober evaluation of what we can say about future climate transformations based on analytical thinking and historical evidence.



SEJournal: You write with authority, whether you're analyzing the Little Ice Age, the Medieval Warming Period, the modern era or another point in time. What research tips can you give would-be authors about writing in depth about an era which is obviously far outside of their lifespan? Any advice for such research and how to balance sources?

Friedrichs: The trick is to combine three different things. First, there are historical accounts, which give us insight on how people lived, what happened to them, and how they acted and reacted when confronted with climatic changes. The historical account becomes patchier the farther you move back in time. That's where my second ingredient comes in. Scientists have collected hard data on ice cores, lake sediments and so on that allow us to reconstruct changes in temperature, rainfall, and vegetation. If you triangulate this data with the historical account, you can reach surprising depths of history. In my chapter on "What the climate can change", I cover 11,000 years of history in Mesopotamia and the ancient Near East.

Third, and crucially, you don't want to bore your readers with a dry record of historical events and data gleaned from the pages of *Nature* and *Science*. What you need is a convincing framework and a storyline. To achieve this, I have relied on a theory. The theory, originally formulated by Joseph Tainter, states that societies facing all kinds of stresses respond in progressive ways as long as they can. For example, climate change may spur progressive adaptations. But this becomes ever more difficult because, slowly but inexorably, societies run out of affordable solutions. There comes a point when the cure is worse than the disease, and that's when climate change and other stressors can get us over the edge.

You can see this in ancient Mesopotamia, and the million-dollar question is whether today we're in a situation where a progressive response to climate change is possible at the planetary level. Or has industrial society already reached a level of complexity and technical sophistication where we don't have enough problem-solving capacity left to deal with climate change and various other squeezes on the viability of our industrial way of life?

SEJournal: Did you ever reach a point in which the material seemed overwhelming or that you thought you might be trying to take on too much by offering such a panoramic view through time?

Friedrichs: Every author goes through that. The more daunting the task you set yourself the more you will go through these cycles of self-doubt, but the reward is that you see more of the big picture, and you also become able to convey more of it to your readers.

SEJournal: Your book does a great job of developing big-picture consequences and laying out some chilling scenarios – but is it a matter of people not seeing the big picture or simply denying that the world they have known for years could be changing in ways they can't fathom?

Friedrichs: It is the latter, of course. In my book, more than half a chapter is dedicated to denial. Yet there are people with inquisitive minds who want to see the big picture and do something about it, and it's not easy for them because they are surrounded by people in denial. I have written the book with such people in mind. Besides, I have also written the book because that's what I do. I see it as my responsibility to state what's important even when there is not a majority of people receptive. What else could I do if I am serious about climate change?

SEJournal: Why isn't energy conservation being pushed more?

Friedrichs: There is absolutely no way we can get out of this mess without energy conservation and greater efficiency. It's being pushed quite a bit, but conservation efforts and efficiency gains are unable to keep pace with increasing fuel consumption and industrial growth.

A good way of looking at it is carbon intensity, or CO2 emissions per dollar of GDP. Due to conservation and efficiency gains, global carbon intensity declines at a rate of about 0.77 percent per year. That's actually quite impressive, but as long as the world economy grows by more than 0.77 percent per year, there is still emissions growth in absolute terms.

SEJournal: Do you see some newer technologies aimed at generating more energy, such as the horizontal drilling technique that has made fracking more popular and released previously trapped oil and natural gas, as being somewhat of a mirage – filling a window of time – and failing to promote more conservation or development of renewables for the long run?

Friedrichs: Yes, exactly. Technologies like fracking get us out of one hole (liquid fuel scarcity), but they get us even deeper into another hole (climate change). People say when you are in a hole stop digging, but we are doing the opposite – we are even drilling horizontally, miles deep.

> "While technology certainly needs to be part of the solution, it is definitely part of the problem."
> — Jörg Friedrichs

Let us not forget that technological progress got us into this mess in the first place. The industrial revolution relied on coal-fired steam engines. Modern road traffic relies on the internal combustion engine. Our entire way of life leads to growing emissions, and while technology certainly needs to be part of the solution, it is definitely part of the problem.

SEJournal: Are you optimistic there will ever be a coordinated, meaningful global effort to reduce greenhouse gases and, thus, reduce the amount of influence mankind has on climate change? What will it take to galvanize such an effort? Was the recent agreement between the United States and China a major step in the right direction, or do you see it as largely symbolic, political and done for public relations?

Friedrichs: Thanks for bringing up the US-China deal. I was amazed that Obama and Xi could agree on this, and especially for the Chinese it will be incredibly costly. They'll have to decarbonize their economy more quickly than they're growing, and with Chinese growth rates that's a tall order. Even so, we're talking about China plateauing around 2030, and that won't get the planet out of trouble. In the meantime, India is planning to double its coal consumption.

So we're not there yet. At some point, maybe after a major calamity testing the limits of our imagination, responsible leaders will get together and broker a real deal. I'm sure you've seen these B-movies about climate mayhem, so I don't have to delve into the scenarios. The problem is that a real climate deal would inflict enormous costs on those who implement it because they would have to cut emissions in no time, slamming the brakes on their economies.

Alas, not everyone is willing or able to act responsibly and not everyone will want to be part of the deal. I've already mentioned India. Each country is coming up with its own pledge for the Paris conference in November this year, and the big question is whether and how the pledges add up. And Paris won't be enough; it will all have to be tightened if it is to turn the tide on climate change. What do you do with those who disappoint? Fight a war against developing countries that decide that now it is their turn to drive cars and live in proper houses, emitting even more CO2 in the process? Leave them at it, because their claims are legitimate, allowing them to continue their emissions unabated and even increase them?

Besides, the members to a real climate deal will see their military capabilities dwindle, as credible power projection needs incredible amounts of fuel. The non-members will quickly rise in relative terms, enabling them to continue their reckless industrial model whatever it takes.

SEJournal: Another theme of your book is sustainability: It's a buzzword that seems soft or confusing to some people. But with finite fuel and exponential growth, society could be on a collision course with a type of disaster that seems unconscionable. Any other thoughts on what journalists can do to help people understand the world can't sustain itself if it stays on its current path?

Friedrichs: When I was a kid, my grandpa, who was a ranger in a German forest, explained to me the concept of sustainability long before it became a buzzword. Essentially, you manage a forest sustainably when you run it in such a way that there is still going to be a forest for our children and grandchildren. So how can we run the planet in such a way that there is still a planet for our children and grandchildren, and not just for reckless survivalists? Anything that gets us closer to that is a move toward sustainability.

This is easy enough and should not be confusing. There is a catch though. How can we reach sustainability on a finite planet where there are already too many people making escalating demands on our non-renewable resources? In a situation like that, you cannot just figure out a steady state and then run things sustainably. When you are hopelessly in overshoot, as we are, it takes an active effort to stay in the game, let alone become sustainable. You have to change plenty of things so that the things you really care about can stay the same.

This is called resilience, another buzzword. Here, the task is to make sure we're able to adapt and preserve our core values when the going gets tough. For example, how can we restructure traffic in order to preserve mobility? How can we restructure the economy in order to preserve industrial society? It is easy to see that the way we harness energy to make things must change radically if we want to make industrial society resilient to climate change.

In short, the question is not only how to make our world sustainable but also how to make it resilient. What journalists need to help people understand is that our lifestyles must be up for grabs so that our most fundamental goals are not lost, such as a climate that sustains human life and an economy that can sustain nine or ten billion people by the middle of the century.

berships in the state's diverse communities. That could lead to more of the same at the 2016 conference, especially in the heavily Asian and Latino communities surrounding the Sacramento, CA, venue.

"If we can make progress this year with Native American and black constituents, then we can demonstrate that it can be done and that would carry on to Sacramento and into the future," she said.

New Orleans conference prompted hard look at SEJ numbers

Diversity planning for 2015 comes in the wake of mixed results on the topic at the 2014 conference, held in 60 percent black New Orleans.

A quarter of the 16 tours and mini tours specifically addressed perspectives of diverse communities, including those of the Ninth Ward and the city's chemical corridor, as well as those of tribal community members on flood retention levees.

In addition, Hispanic and Asian tour leaders and speakers were among presenters. Speakers from African American communities included Beverly Wright, director of the Dillard Deep South Center for Environmental Justice; Nsedu Witherspoon, director of the Children's Environmental Health Network; Colette Pichon Battle, director of the Gulf Coast Center for Law and Policy; musician Michael White; former Army Lt. Gen. Russel Honoré, and musician Delfeayo Marsalis.

> "The goal of diversity is not just to bring in people of color to talk about environmental justice, racism or diversity itself, it's to have them a part of every discussion, every panel and every topic, not just those that deal with race."
>
> —Brentin Mock
> Justice Editor, Grist

Given that this was out of 44 panels, plenaries and workshops involving hundreds of participants, however, criticism arose over alleged under-representation of African American and other communities. In a listserv conversation, for instance, SEJ member Tony Barboza, a *Los Angeles Times* staff writer, cited "lack of diversity in SEJ."

Conference Chair Mark Schleifstein shouldered the blame for perceived under-representation of different sectors. He noted, however, that a number of potential participants from diverse quarters declined invitations, and added: "We're limited in who we get to talk on our panels by the same diversity problems within the industries we cover."

Schleifstein also recalled that initial conference organizing meetings drew only a couple of people of color, as did requests to membership for panel leader and tour volunteers. He also reminded critics that SEJ conferences are the result of a "bottom-up" grassroots volunteer membership process: "Where were our members in finding speakers for us?"

That conference experience prompted a hard look at membership numbers by SEJ. Volunteer Tina Casagrand helped SEJ Executive Director Beth Parke and Sheppard compile a rough estimate of the numbers of people of color in the organization.

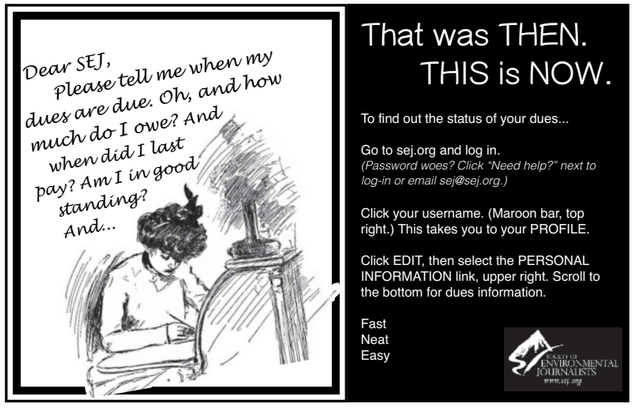
It was 86, or 7 percent of the membership. By comparison, the 2014 American Society of News Editors Newsroom Census showed about 13 percent of full-time daily newspaper journalists are racial and ethnic minorities, while the Radio Television Digital News Association's annual survey pegged the minority workforce in TV news at 22 percent.

Mock suggested comparing SEJ's recruitment record with that of other respected institutions and "seeing if they hold up to best practices."

Parke, meanwhile, has renewed fundraising for conference fellowships to help increase membership diversity. She also suggested surveying members in organizations such as NAJA, NABJ, National Association of Hispanic Journalists, and Asian American Journalists Association to test interest among their members in learning more about environmental coverage through SEJ.

At the same time, Parke noted that some of SEJ's best membership building is done by volunteer "welcoming efforts" and personal recruiting, which she called "the most effective thing anyone can do for member outreach and retention, bar none, across the board."

In fact, she said, volunteerism "is the area that we need to emphasize for future, sustainable progress."



Diversity closely bound to organization roots

Parke made clear SEJ staff and board members have pursued diversity goals throughout the organization's quarter-century, maintaining "This is in the organization's DNA."

The organization launched its diversity initiative in 1991. And at the very first conference that year, Conference Director Letto organized and moderated a panel session on diversity in environmental issues featuring Hispanic, Native American, and black speakers, including then-young Bob Bullard, who has since earned a nickname as the Father of Environmental Justice, and who has returned repeatedly to SEJ conferences.

Diverse leadership is apparent in the organization. SEJ board members of African American, Asian and Latino descent have included Wevonneda Minis, Gary Lee, Steve Curwood, Roger Witherspoon, Brenda Box, Emilia Askari, Adlai Amor, Imelda Abano, and Angela Posada-Swafford. Minis, Askari, and Posada-Swafford have all served as conference chairs.

African American and Hispanic staffers have included Jutland Medina, Amy Vaughan Simmons, Randi Ross, Maria Bednarz, and Esteban Romero.

The organization's track record helped convince the National Science Foundation and Columbia University to fund SEJ with a $150,000 grant as part of a large program to promote diversity in the geosciences from 2002 through 2005.

SEJ has published web-based resources, tip sheets, and other publications of special interest to diversity communities, for example a Spanish-language section on the website and a 2004 series of environmental justice tip sheets by Amy Gahran. And the organization held leadership development retreats in 1998, 2002, and 2006 with travel funding for and attention to recruiting members of color.

From 2008 to 2010, SEJ secured funding to support the establishment of Rempa, the first Mexican and cross-border organization of environmental journalists. It partnered with the Environmental Journalism Network at Internews and with the International Center for Journalists to help Rempa hold a regional SEJ meeting in Mexico and subsequently train journalists on forest resource management coverage in four Mexican cities.

SEJ established a volunteer Diversity Task Force in 2010 to foster greater coverage and understanding of environmental issues that affect minority and other marginalized communities. The associated SEJ Diversity listserv is open to people both inside and outside the organization. In addition, SEJ provided Spanish translation services to conference goers in 2005 in Austin and 2011 in Miami.

In 2011, SEJ partnered with NAHJ to hold joint events at the SEJ annual conference in Miami. And in 2008, 2014 and again for the coming year, SEJ conference organizers have involved personnel of historically black colleges and universities in planning efforts. It also offered conference travel fellowships to people of color beginning in 1993, but stopped offering them in 2012 when funding dried up.

Funding shortfalls hamper diversity initiatives

Lean funding availability in the years since 2010 has strained the budget, and "money does matter when it comes to sustained program work on diversity," Parke said.

For instance, she added, diversity fellowships have consistently ranked lowest priority in member surveys about budget cuts. And the organization's budget struggles since the Great Recession have left no funding available for leadership-building retreats or travel to meetings of other groups, both activities that promoted diversity within SEJ.

These days, Parke said, "It's all about this grassroots organization and more people doing outreach with personal touch." An example would be revitalizing a languishing Diversity Task Force. Gaarder agrees: "We need people to step up to the plate — not sit back and criticize."

Members who want to do some of the phone calling and networking needed for the 2015 conference may contact organizers at: nancy.gaarder@owh.com, sarahterrycobo@gmail.com and Jletto@sej.org.

Talli Nauman is co-director of Journalism to Raise Environmental Awareness, an independent agency she established in 1994 with a MacArthur fellowship. She is the once (and future?) SEJ Diversity associate, a founder of the Mexican Environmental Journalists Network, editor of the bilingual newsletter Meloncoyote, *Thomson-Reuters Climate AlertNet correspondent, and contributing editor for Health & Environment at the* Native Sun News.

Reporter's Toolbox: Climate Explorer *continued...*

over time appear to the right. Use your mouse to scroll back and forward in time, and to zoom in or out to find the period that interests you. This zooming function is a little clunky at the moment, but the development team says it's working on an improvement.

Clicking on the "layers" option, which is next to "historical data," allows you to overlay your map with data related to flood risks, food resilience and ecosystem resilience. This is the real guts of the website. By default, clicking on "layers" brings up options for coastal flood risks. Click on the layers that interest you, such as sea levels with two feet of sea-level rise, or probability of overwash from a category 3 hurricane. You could then add layers showing population density or social vulnerability to flooding.

To make each of the layers partially transparent, click and hold the blue nub at the far right of the bar beneath the name of the layer, then drag it left. Clicking on an "i" icon will help you find the source data. To go through the same process with food resilience or ecosystem vulnerability layers, click on the triangle next to "Coastal Flood Risk" and pick your climatic poison.

The government plans to expand the number of layer options over time, adding data related to water, energy, health, transportation, the built environment and more.

'Doorway' to data — meant for planners, good for reporters

The Explorer could be useful for reporters who want to visualize current and looming climate hazards.

"We wanted to provide a doorway so that we could make the data tools more discoverable and more accessible," said Richard Driggers, a White House data official.

But don't be hurt when I tell you that it wasn't designed with journalists like you or me in mind. It was made primarily for planners, particularly those outside of the federal bureaucracy.

"Those at local and state level that are making decisions, that are doing adaptation planning, that are doing infrastructure investment planning — those individuals don't necessarily know how to navigate through the entire federal climate enterprise," Driggers said.

But don't let that stop you from using it.

John Upton is a senior science writer for Climate Central in New York. He has written for The New York Times, Slate, Nautilus, VICE, Grist, Pacific Standard, Modern Farmer, 7x7 San Francisco *and* Audubon *magazine*.

Poulson's students used TimelineJS to compile a history of the Velsicol Chemical Corporation/Pine River Superfund Site in St. Louis, MI. The students collected text, photos, historical documents and links to news stories and embedded them in an interactive format. Readers can scan an overview of the site's history or click through events one by one (see http://bit.ly/1C7zODD).

Although the timeline could be useful to readers, Poulson wanted it more as an in-house training tool for new reporters. The Superfund site is about an hour from campus, and environmental journalism students who want to write about it often lack ready access to background information.

"This is one of those complex, messy, never-ending cleanup stories that benefit from journalists who have covered them for years. We don't have those in the context of university journalism; every class starts from zero," Poulson says. "Of course, the timeline cannot replace a longtime reporter of the story, but I'm hoping that it helps get them up to speed quickly."

TimelineJS is simple to use; one only needs to know how to operate a Google spreadsheet to make it work.

Poulson did have some problems with scanned documents not showing up in the timeline. Another challenge was organizational, because he assigned students to work on the project in a group, and some teams did better than others.

"Still, I thought it a good exercise and maybe we'll get better at it," he said.

Interactive map tool intuitive, engaging

I myself tried another worthwhile free digital tool from the Knight Lab. It's called StoryMapJS, and like its timeline cousin, it's super simple to use.

With StoryMap, users can create interactive maps studded with multimedia and social media content. Its user-friendly interface makes it a cinch to add photos, text, tweets, Instagram photos, YouTube videos, SoundCloud audio clips and more.

I had used TimelineJS before and found it intuitive for student journalists and engaging for readers. StoryMap turned out to be the same.

We made our map the centerpiece of a semester-long project that paid homage to William Least Heat-Moon's classic travel book, Blue Highways. Least Heat-Moon's lyrical prose took readers on a journey around the United States on the back roads, or "blue highways" as they used to appear on old maps.

My students traveled the rural byways of central Missouri to study the people and the land, and we published narrative stories about their findings (see http://bit.ly/1yXtZaJ).

While the students were out reporting, I had them take photos, shoot videos, record sound and publish social media posts. We pulled from that rich content when we published our map highlighting their journeys.

StoryMap provides some baked-in options for fonts and map design, and those with more advanced JSON skills can tweak it even more.

My students didn't encounter any major hurdles with the program. The hardest part was editing and organizing the content. StoryMap works best with a directional journey, a route with a beginning, middle and end; otherwise the map can appear to jump all over the place.

Further Inspiration

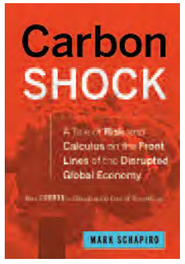
For more tips, check out these links:

● Journalism.co.uk has archived a helpful collection of tools and resources from the past year. This comprehensive list covers social media, mobile journalism, newsgathering, multimedia and other journalism skills. http://bit.ly/16Hsl5F

● Katy Culver's #EdShift column is a good source for digital ideas. If you've ever thought about trying Google Glass, or wondered if there are applications for virtual reality in journalism, check out her roundup of tools, training and funding for journalism education programs. http://to.pbs.org/1DThwrQ

● Culver has a handy tip sheet on another easy tool perfect for environmental stories, Google Fusion Tables. (http://to.pbs.org/1yXuvp9) You can see an example of her students' data work in this simple map showing efforts to save the dying Little Green Lake in Wisconsin. "This one could use more data, but it's great as an example of what a student can do with zero training from me," Culver says. http://bit.ly/1vz541x

Sara Shipley Hiles is an assistant professor at the University of Missouri School of Journalism in Columbia, MO. She teaches science writing and digital magazine editing, among other subjects.



Carbon Shock: A Tale of Risk and Calculus on the Front Lines of the Disrupted Global Economy – How Carbon is Changing the Cost of Everything
By Mark Shapiro
Chelsea Green Publishing, $26

Reviewed by TOM HENRY

Meaningful progress on addressing climate change isn't just being impeded by those who deny the science behind it.

Perhaps more important are the pragmatists of the business world who, understandably, don't want to have the issue settled by knee-jerk emotion. They are the slightly more moderate and much more reasonable conservatives who want to be shown on a balance sheet how excessive carbon dioxide emissions are wreaking havoc on the economy and what could best be done, in a logical and systematic way, to scale those emissions back without causing unnecessary hardship.

That's where veteran journalist Mark Shapiro comes in with his fascinating book, "Carbon Shock: A Tale of Risk and Calculus on the Front Lines of the Disrupted Global Economy – How Carbon is Changing the Cost of Everything."

Unlike many books about climate change, this is not a manifesto. There's a passionate tone in many areas, but the book reads more like an analysis of public policy shortcomings and missed economic opportunities than a tree-hugging rant.

Shapiro does have an agenda – waking people up to the hidden costs of the status quo.

But instead of just promoting efforts to move away from coal-fired power plants, he wades deep into the weeds of why utilities should realize that continued investment in them makes less economic sense – especially if the world realizes how a continued over-reliance on carbon is driving up the costs of goods, not keeping them suppressed, and how a dreaded carbon tax or even a more flexible cap-and-trade system for emissions may be unavoidable, despite the political fallback.

More importantly, he addresses what economists refer to as opportunity costs – those hidden costs of inaction.

The book begins with an intriguing look at how the carbon footprint of the airlines industry has quietly created a powerful global trade war, accentuating tension on the climate crisis between the United States and Europe.

Then, at various junctures, readers learn how carbon has affected costs for drought-stricken California farmers with higher temperatures and less productive yields; how it has affected prices for crop insurance; and how all of that has resulted in a largely unnoticed – yet hefty – indirect impact on taxpayers.

The successes and failures of addressing carbon are explored in anything from an espresso cup made in South America to foreign polluters investing in trees in the jungles of Brazil. He shows how once-sooty Pittsburgh has become reinvigorated by green technology, and how carbon is being addressed anywhere from China's power plants to commodity-trading desks in London.

Although there are times the book gets a little too top-heavy in economics, "Carbon Shock" is important because it taps into the market that needs to be engaged more – those who want evidence of what's at stake beyond altruism or ecology.

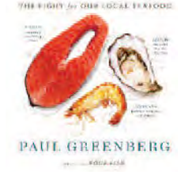
Even Robert F. Kennedy, Jr., has stated in numerous speeches, including one to SEJ at the group's 2004 conference in Pittsburgh, that pollution cannot be addressed without engaging the business community.

Not everyone will agree with Shapiro's findings – and energy markets change all the time.

But the fundamental effort he made to advance that discussion – the multi-year, excruciating level of research he put in, especially to opportunity costs and lost chances – makes this a noteworthy book.

Shapiro isn't on a crusade for renewable energy per se, but gives countless examples of how tuning up our approach to energy production, conservation, and energy security – all with the ultimate goal of reducing carbon dioxide and other greenhouse gases – can pay dividends.

Tom Henry is SEJournal's *book editor and is a member of the magazine's editorial board. He is a former SEJ board member who covers environmental and energy issues for* The *(Toledo)* Blade.



American Catch: The Fight for Our Local Seafood
By Paul Greenberg
Penguin Press, $26.95

Reviewed by JENNIFER WEEKS

In "American Catch: The Fight for Our Local Seafood," author Paul Greenberg tries to explain a paradox: The United States has billions of acres of ocean, and fishing is one of our most historic industries, but more than 90 percent of the seafood that Americans eat today is imported.

Much of that supply is inexpensive farmed fish. What's more, one third of the seafood that U.S. fishermen catch is exported, and much of that supply is expensive wild-caught fish.

To see how this happened, Greenberg examines the fate of three historic American fisheries.

His first case, New York oysters, is a story that has played out in many places along the Atlantic coast. Less than a century ago, local oysters were a common food in Manhattan. Today, more than 80 percent of the salt marshes that once lined New York Harbor are gone, and the city's waterways are still fouled by combined sewer overflows, which make the few oysters left there unsafe to eat.

But the Clean Water Act is helping an East Coast oyster industry slowly rebuild. And flooding during Hurricane Sandy has spurred new interest in recreating oyster beds in the harbor to buffer the city against future storms.

"It is high time for such a development, not only for New York but for every place humans built their settlements on the coast," Greenberg argues.

Next, Greenberg recounts how industrial-scale fishing converted shrimp from a specialty in the 1950s to a marine version of

a commodity crop today.

Louisiana fishermen who catch brown shrimp in the Gulf of Mexico compete with farmed shrimp from Asia, which don't have the same distinctive flavor but are cheaper. Adding to the pressure, shrimpers now have to travel around the Gulf of Mexico dead zone to find adequate hauls.

Some shrimpers are trying to save the fishery by creating marketing programs that sell Gulf shrimp directly to consumers under local brands, bypassing large-scale bulk wholesalers. But as Louisiana's marshes deteriorate, destroying shrimp habitat, the fishery's future remains uncertain.

Greenberg's third case is what he calls the "last, best chance" to save a healthy wild American fishery: Alaskan sockeye salmon.

The Bristol Bay salmon fishery generates $300 million in profits every year, but is threatened by the proposed Pebble Mine in the bay's watershed.

If the mine is developed, it would produce billions of tons of acidic wastes that would have to be stored onsite behind an impoundment dam.

Fishermen, environmental advocates and the Bristol Bay Native Corporation argue that the mine poses an unacceptable threat to Bristol Bay.

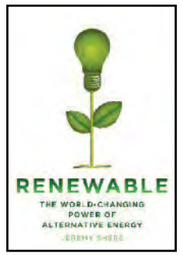
Greenberg warns that although many U.S. fisheries are recovering from overfishing in the 1970s and '80s, American fishermen are struggling to compete with cheap imported farmed fish. That feeds a larger, vicious cycle: Fish-processing centers lose business and close, so U.S. fishermen sell unprocessed fish to foreign buyers who freeze it and export it.

Developers buy up coastal land, drain wetlands and build vacation homes for people who have no ties to the coast and are happy to eat imported seafood.

Greenberg nimbly explains the conflicting pressures on U.S. fishermen, and paints vivid pictures of the waterfronts he visits in New York, Louisiana and Alaska. He finds some hope in community-supported fisheries and other groups that sell local fish to local buyers, and in "soft" coastal restoration programs that rely on natural elements like oyster reefs and restored wetlands.

"This is, in the end, a fight for all Americans," he contends. "A struggle for biologically vital coasts, economically viable waterfront communities, and good, healthful food."

Jennifer Weeks is a freelance writer and former SEJ board member based in Watertown, MA.



Renewable: The World-Changing Power of Alternative Energy
By Jeremy Shere
St. Martin's Press, $25.99

Reviewed by STEFAN MILKOWSKI

Reading Jeremy Shere's "Renewable: The World-Changing Power of Alternative Energy," you can't help but think – lament, even regret – what might have been.

If only President Lincoln had taxed kerosene as much as alcohol during the Civil War, our cars might run on biofuels today.

If only Henry Ford, decades later, had succeeded in promoting the plant-based fuels, climate change might not be as big a problem.

At various points in history, renewables have been the best option, only to be set back by shifting politics or global economics.

Now, with climate change and waning supplies of fossil fuels, renewables stand to dominate again.

But are they ready?

Shere sets out to answer that question. He comes at it from a personal perspective, feeling both like he ought to partake – buy a hybrid car, for instance – and that he lacks a good understanding of where energy comes from and how that might change.

Shere tackles five major categories of alternative energy – biofuels, solar, wind, geothermal and hydro – and offers colorful histories of the development of each.

For wind, he brings us back to 12th century England, where an ambitious knight could find wealth with a wind-powered flourmill.

He writes about "wind wagons" crossing the Great Plains, harebrained ideas to harness the power of Niagara Falls and abandoned plans for a rock-melting, nuclear-powered drill bit.

Shere's reporting on the current state of renewables gives a good sense of the big picture and also of how specific renewable projects can work.

Mostly the picture is hopeful.

Geothermal power plants north of San Francisco have operated economically at utility scale since 1960. Wind power ballooned from 6,000 megawatts of installed capacity in 1996 to 238,000 megawatts in 2011.

Ball State University in Indiana replaced its old coal boilers with a $70 million geothermal system – because it made economic sense.

Shere's on-the-ground reporting and personal reflections give a rounded picture of renewables that goes beyond dollars and megawatts.

His focus on individual scientists and developers is justified by the outsized role individuals have played in energy development through history.

Shere proves that he's capable of explaining the technical side of renewables, giving a thorough description of how photovoltaic solar panels are made and explaining the value of cellulosic ethanol. But mostly he avoids the nitty-gritty in an effort, he explains, to avoid losing readers' attention.

There are times that a more detailed analysis would have helped. For instance, Shere raises, but then skips, questions of integrating wind power into electrical grids or accounting for the energy used to produce biofuels. The reader is almost left not knowing if either technology has any benefit at all.

"Renewable" might have been stronger, too, with a chapter on energy efficiency.

Given the right circumstances, it seems, renewables are technically viable and could flourish. At other times, history suggests renewables are doomed to fail. The inertia of fossil fuels seems hard to overcome.

"So which is it?" Shere asks. "Is solar energy booming, or is it a momentarily sexy but ultimately marginal player in the greater energy scheme?"

Shere's answer seems to be this: It depends. That might sound frustrating, until you realize there are many ways to judge success or failure.

"Compare the energy output of the world's solar plants to that of the world's coal-fired power plants and, yes, solar seems puny," he writes. "But consider solar technology today in contrast to where it stood only 30 years ago, when Jimmy Carter unveiled his White House solar panels, and a different story takes shape."

Shere's conclusions seem justified. He writes that "nearly all" renewable technologies will require government funding and support to thrive.

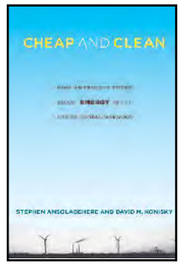
But he also points out that a simple cost comparison between renewables and fossil fuels "ignores the largely invisible, unaccounted-for costs of fossil fuel-based energy, such as pollution, potential effects of climate change, and myriad tax breaks and other incentives benefitting energy companies."

He writes that economic and political support would speed the transition to renewables "immeasurably," and that such a transition is inevitable, if only because fossil fuels will someday run out.

Maybe "Renewable" went to press before Bill McKibben articulated so well in *Rolling Stone* that if we burn all the already-discovered fossil fuels, the planet is toast.

Then again, like a responsible journalist, Shere might just be writing about the world we live in and not the world we might wish to have.

Stefan Milkowski is a freelance writer and carpenter in Fairbanks, AK.



Cheap and Clean: How Americans Think About Energy in the Age of Global Warming
By Stephen Ansolabehere and David M. Konisky
MIT Press, $27.95

Reviewed by JENNIFER WEEKS

How do Americans think about energy choices?

What kinds of new power plants and delivery systems are the public likely to accept, and what types and levels of risk will consumers tolerate in return for reliable energy supplies?

These questions loom especially large now, as dozens of older coal-fired power plants shut down nationwide and we consider how to replace them.

Should we frack for more oil and gas? Extend the operating licenses for more nuclear plants? Build more utility-scale wind and solar farms?

Every choice has its advocates and its downsides.

Political scientists Stephen Ansolabehere of Harvard University and David Konisky of Georgetown University conducted a series of surveys measuring U.S. views about energy over the past decade. They found that Americans consider two issues when they think about energy: price and harm.

Ideally, we want fuels that are both cheap and clean – i.e., that have low prices and cause low levels of all kinds of harm, including health, environment and security impacts. In practice, we trade those two goals off against each other.

In this book, Ansolabehere and Konisky argue that public perceptions of the costs and harms of different fuels are the most important drivers of American energy choices.

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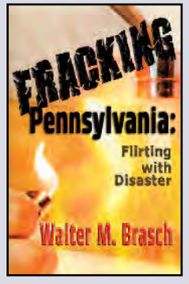
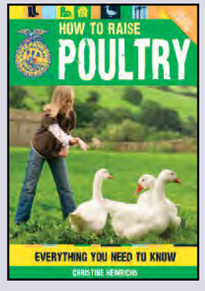


Fracking Pennsylvania: Flirting with Disaster
by Walter M. Brasch

Greeley and Stone Publishers
www.walterbrasch.com

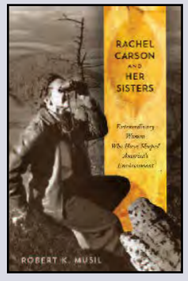
Dr. Brash combines scientific evidence and extensive interviews with those affected by fracking throughout America, and an investigation into the collusion between politicians and Big Energy.



"How to Raise Poultry Everything You Need to Know"
by Christine Heinrichs

Voyageur Press
http://bit.ly/HowToRaisePoultry

This book gives detailed history and breed information for the beginner, the experienced poultry keeper and those for whom poultry dances in their dreams. Revised and updated from the 2009 edition.



"Rachel Carson and Her Sisters Extraordinary Women Who Have Shaped America's Environment"
by Robert K. Musil

Rutgers University Press
http://bit.ly/RachelCarsonAndHerSisters

A provocative fresh look at Rachel Carson that reveals the roots of her political passion and the women who inspired and were inspired by her.

These views influence U.S. decisions about energy much more strongly than demographics, geography or consumers' political leanings.

This finding was supported by a recent University of Michigan poll that found almost no regional difference in views about how energy affects the environment.

The authors conclude that Americans perceive the costs and harms of different energy sources fairly accurately. They understand that coal and gas are cheaper than oil and nuclear power, although many people believe (wrongly) that wind and solar are cheap energy sources.

Americans typically perceive coal and oil as having the most harmful impacts on the environment, and renewable sources such as solar and wind energy as posing the smallest environmental harms, with natural gas somewhere in the middle. Although nuclear power produces few harmful emissions from electricity generation, many Americans view it as very unsafe because of the risk of catastrophic accidents.

Ansolabehere and Konisky found that when Americans think about harm to the environment from energy use, they care most about local impacts such as air and water pollution, waste dumps, and spent nuclear fuel storage at reactors.

Climate change is a secondary issue in most people's minds and doesn't have much influence on general public views about energy.

"Most Americans express concern over climate change and say that some steps should be taken now to address the matter," the authors write. "At the same time, most Americans are also unwilling to spend more than a few dollars more on each month's electricity bill even 'if it solved global warming.' We are of two minds – concerned with and aware of the problem, but unwilling or unable to act."

The authors find that Americans want to use more renewable energy and less coal and oil, but don't expect the energy system of the future to actually look much different from what we have now. In other words, they don't trust energy companies or government to move to cleaner fuels. Moreover, almost no one supports President Obama's "all of the above" strategy: only 3 or 4 percent of Americans think we should use more of all fuels.

To make progress on climate change, Ansolabehere and Konisky recommend policymakers to focus on strategies that produce major local and regional environmental benefits, such as cutting coal-burning power plant emissions, instead of focusing primarily on carbon emissions.

A bumper sticker for their approach might read "It's the soot, stupid." Regulating harmful pollutants such as sulfur, mercury and particulates that have high social costs will also make fossil fuels more expensive.

In the long term, the authors contend, this approach could make renewables more competitive, and provide Americans with energy that is truly cheap and clean.

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Sofi Hindmarch, a wildlife ecologist at Simon Fraser University in British Columbia, studies barn owls in a specially built nest to help preserve their dwindling population around Vancouver to learn how much rodenticide they are picking up from eating mice and rats that have ingested one of the new generation of super-toxic rat-killing poisons. The story was first reported by Seattle-based InvestigateWest, one of the new generation of internet nonprofit news organizations that are starting to take flight in the wake of the decline of daily print journalism. For more on the ascent of these innovative ventures, see stories beginning on page 8.

Photo: © Paul Joseph Brown, InvestigateWest, ecosystemphoto.com