



SPECIAL REPORT:

# Tracking the Fracking Boom

Coverage Basics of Hydraulic Fracturing

Plus

Taking the Chaos out of Disaster Reporting

Photojournalist Dives into Digital in "Sea Change"  
Freelance Files: Collaborating across the Pacific

Also

Scapegoating the Grey Seal, Trend Spotting on the Science Beat and DIY enviro textbooks

A quarterly publication of the

**Society of Environmental Journalists**



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To strengthen the quality, reach and viability of journalism across all media to advance public understanding of environmental issues

The Society of Environmental Journalists (SEJ) is a non-profit, 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 1,350 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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This oil drilling rig preparing for hydraulic fracturing operations near Lubbock, Texas was visited by journalists on a field trip during the 2012 SEJ annual conference, among them Bobby Magill, a senior science writer at Climate Central. His story about fracking begins on page 5.

Photo © Bobby Magill

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## SEJournal

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# Celebrating 25 Years, Fluff Free

By DON HOPEY

In the last *SEJournal*, I wrote about the environment beat's maturity. Now, in this last column of my presidency, I'd like to address its necessity and SEJ's role in it by focusing on two events, one just past, the other approaching quickly.

Recently, Tom Henry, the *Toledo Blade's* fine environment reporter, spoke in his Ripple Effect blog (<http://bit.ly/1vuQF1g>) about the August 2014 water contamination caused by toxic blue-green algae in his city by the lake. He wrote that it's a "game changer" for local government, state politics and public health.

But it's more than that.

The water crisis that affected 500,000 in Toledo brought into focus not only the core importance of environmental and public health issues, but also the very real and vital role that good, knowledgeable reporting plays in informing the public.

The coverage drew on local, state and national sources and included an important story about official accountability based on information obtained in a right-to-know request. Those documents showed local water authority officials deferred maintenance that may have prevented the problems caused by the pea-green mat of algae surrounding the city's water intake in Lake Erie.

Tom's experience benefited his coverage, which has drawn national praise. It is not a stretch to say that his journalistic skills and knowledge base are informed and strengthened by his participation in SEJ conferences, his service on the SEJ board, his ongoing role as *SEJournal* book editor, and his many organizational friendships. Which brings me to the second event: The 25th anniversary of this important community of professional friends, this Society of Environmental Journalists.

It is a noteworthy anniversary and an appropriate time, I think, to acknowledge SEJ's founders, how the group came to be and what it has become.

A short history of our world:

SEJ was not born into the journalistic universe kicking and screaming, though we've since made up for lost time. The idea had a lengthy gestation in the 1980s against an increasingly hard to ignore environmental backdrop that included the discovery of a hole in the ozone layer over Antarctica (1985), a meltdown in Chernobyl (1986) and the reefing of the Exxon Valdez in Alaska's Prince William Sound (1989).

According to an account by Jim Detjen, who was then covering the environment at *The Philadelphia Inquirer*, discussion about the need for an organization to support journalists writing about those issues came up over several years and several drinks with New Orleans *Times-Picayune* environment reporter Mark Schleifstein at Investigative Reporters & Editors conferences.

On a parallel track in the spring of 1999, David Stolberg, then the assistant general editorial manager of Scripps Howard Newspapers, pitched the idea to Dennis Anderson of the *St. Paul Pioneer Press Dispatch* and Kate Long and Paul Nyden of the *Charleston Gazette*, that year's Edward J. Meeman national environmental writing award winners. They endorsed it and sent a letter seeking

support to Detjen and other Meeman winners from previous years.

On Sept. 1, 1989, Detjen was one of 17 winners of the Meeman and Thomas Stokes national journalism awards who signed a letter mailed to journalists around the United States, asking if there was interest in forming such an organization.

"This will not be a fluffy group," the letter stated. "The threat to the environment in the early 1990s is enormous. Whether we write about air and water pollution, strip mining abuses, vanishing wildlife, or hazardous waste, we are writing pieces of the most important story of the decade. We need a forum where we can meet each other and see how those pieces fit together."

Joining Detjen, Anderson and Nyden as signatories of that letter were Marla Cone of the *Orange County Register* in Santa Ana, CA; Kevin Carmody of the *Potomac News* in Manassas, Va.; Bill Dietrich, Tom Long and Natalie Fobes of the *Seattle Times*; Jane Kay of the *San Francisco Examiner*; Deborah Frazier of the *Rocky Mountain News*; Shannon Tompkins of the *Beaumont Enterprise* in Texas; Bob Anderson and Michael Dunne of the *Baton Rouge Morning Advocate*; Thomas Morton of the *Colorado Springs Gazette*; Richard Boyd of the *Enterprise* in Lexington Park, Md; Steve Meissner of the *Arizona Daily Star*; and Jonathan Harsch of Maumee, OH.

More than 100 journalists responded in support of such a group and SEJ was officially incorporated on Feb. 14, 1990.

The first appointed, interim board was headed by Detjen as president; Rae Tyson of *USA Today* and Teya Ryan of Turner Broadcasting as vice presidents; Noel Grove of *National Geographic* as treasurer; and Bob Engelman of Scripps Howard News Service as secretary. Other board members included George Dwyer of ABC News; Julie Edelson of *Inside EPA*; Janet Raloff of *Science News*; Howard Chapnick, a photojournalist at Black Star Publishing; Bowman Cox of Pasha Publications; Tom Meersman of Minnesota Public Radio; Carmody; Anderson, and Nyden.

Others playing prominent founding roles in SEJ were Bud Ward, then editor of *Environment Writer*, who hosted SEJ's first organizational meeting in Washington, D.C. in December 1989; Jay Letto, then working as environment program director at Scientists' Institute for Public Information, and since 1993 SEJ's conference director; Phil Shabecoff, executive publisher of Greenwire; Emilia Askari, then the environment reporter at the *Detroit Free Press*; and Beth Parke, who quit her job as senior producer and host of "Consider the Alternatives," a nationally syndicated radio series in Philadelphia, to become SEJ's first and only executive director.

I list the names of all of these SEJ founders to note the group's wide professional and geographic reach, and to humbly recognize their important contributions to, and vision for, this community of



*Continued on page 7*

# Tracking the Fracking Boom

Coverage basics, questions to ask in reporting on spread of shale oil and gas development

By BOBBY MAGILL

When northeast Colorado's shale oil and gas boom kicked off in 2009, it wasn't obvious how hydraulic fracturing, or fracking, would change the landscape, the air quality or the economy in the region.

But change it did: After an exploratory oil well drilled into Northern Colorado's Niobrara shale produced more than 1,500 barrels of oil in 24 hours, sleepy agricultural towns saw crude oil pumpjacks and new oil company jobs appear seemingly overnight.

And then the boom came to suburbia north of Denver.

In a neighborhood called Sharpe Farms near the town of Dacono, CO, there are two traffic circles marking the entrances to the subdivision. Within each roundabout is an oil and gas well pumpjack connected to 300-barrel crude oil tanks positioned a few hundred feet away.

Such a scene is proof that fracking is no longer something that happens in the middle of far-off oil fields. The industry has become a permanent resident of towns, housing developments and the surrounding farmland.

Today, Colorado is far from the nation's leading producer of shale oil and gas, but Weld County, the suburban county north of Denver with the heaviest energy development, has more than 18,000 active oil and gas wells, many of which were drilled since 2009.

As the United States surpasses Saudi Arabia to become the globe's leading producer of oil, the shale boom is felt all over the country, well beyond the biggest shale oil and gas plays.

Even though Texas, Pennsylvania and North Dakota produce the most shale oil and gas from fracking, development is occurring or could occur in places not well known for oil and gas fields, according to the U.S. Energy Information Administration: Arkansas, Illinois, Indiana, Georgia, Michigan, New York and elsewhere.

New pipelines are radiating out from those oil and gas fields while tanker trains carrying volatile crude oil are riding the rails throughout the country.

And studies from Princeton, Cornell, Duke and other universities show that oil and gas wells may be leaking large amounts of methane, a potent greenhouse gas helping to drive climate change.

## What exactly is fracking?

The term fracking is shorthand for hydraulic fracturing, a process used since the 1940s that involves high-pressure injections of water, sand and chemicals into oil and gas wells, cracking open



A section of Marcellus shale that's been fracked. Deep under the earth, fracking opens fissures in the shale that allow oil and gas to seep into the hole left behind from drilling. The gas is then pumped up and out of the well.

Photo by Adam Hinterthuer, IJNR

thin layers of rock thousands of feet underground.

Those rock formations, usually shale or other sedimentary rocks, were once thought to be too dense or "tight" to be porous enough to allow the hydrocarbons trapped in the rock to flow into an oil and gas well bore and be extracted economically.

Over the last decade, however, energy companies found a way around that problem with technological advancements in fracking and directional drilling.

Directional or horizontal drilling is a technique that allows a company to drill a vertical well bore, then angle it 90 degrees so the company can drill horizontally through a rock formation, providing greater access to the oil and gas trapped there.

When fracking occurs, the company injects water and chemicals at high pressure in several stages, creating fractures in the rock that allow hydrocarbons to flow into a well. The sand injected into the well with the fluid helps keep the fractures open and oil and gas flowing into the well.

The well bore hole is cased in steel and concrete to prevent chemicals from leaking into aquifers before fracking fluid is injected.

## No one frack fits all sizes

Nearly every frack job is different. The chemical composition of fracking fluid and the amount of water used depend on numerous factors, primarily the geology and depth of the oil and gas deposit the energy company is trying to tap.

Some fracking operations use a handful of chemicals and a few hundred thousand gallons of water. Others use dozens of chemicals and more than five million gallons of water.

In many cases, some of the fracking chemicals used are considered trade secrets and cannot be publicly disclosed. Some states such as Colorado, however, require companies to disclose the chemicals to state officials in the event of an emergency.

Before these technological advancements, only one well could be built in one spot and it could only access oil and gas that were free-flowing deep underground. These older wells are called "conventional" wells, and wells using the new technology to extract oil and gas from tight rocks are called "unconventional" wells.

Fracked unconventional wells often produce both oil and natural gas, but sometimes they produce one or the other.

It is these advancements in fracking and drilling technology,



An aerial image of a "produced" water evaporation pond in Pavillion, WY, where the mixture of water, sand and chemicals used in fracking is stored after it's brought back to the surface.

Photo by EcoFlight.org

which allow dozens of wells to be drilled from a single location, that have enabled energy companies to produce enough oil and gas to make the U.S. the world's leading producer of crude oil and natural gas.

### Environmental costs still not well known

Fracking came to Colorado's suburbs with a cost: Heavy truck traffic, noise, oil and fracking fluid spills, air quality challenges, earthquakes and many other environmental concerns.

The same is true in Texas, where the oil fields in the Eagle Ford shale south of San Antonio are the biggest producers of crude oil in the U.S. and may be the source of air pollution in south Texas.

In Pennsylvania, the natural gas industry has drilled and fracked thousands of wells in the Marcellus shale in the western and northern parts of the state, the most productive natural gas field in the United States.

Residents in the region have voiced concern about water contamination from fracking there, and studies have shown the natural gas production there to be a major source of methane emissions.

It's a similar story in North Dakota, where the headlong rush to drill for crude oil in the Bakken shale has turned Williston, N.D., into a boomtown and the state as a whole into one of the nation's most prosperous. Fracking has dropped North Dakota's unemployment rate to below 3 percent, the lowest in the nation.

In addition to a roaring economy, Bakken oil fields are known for three other things: The flames from natural gas being burned off oil wells in North Dakota can be seen from space. The highly volatile crude oil produced there is shipped in freight trains, several of which have been involved in deadly and explosive derailments

in the last two years. And, the Bakken fields are slated to be linked into the Keystone XL Pipeline if it is ever built.

The fracking boom is turning the United States into a global powerhouse of oil and gas production, but the environmental consequences aside from the industrialization of residential areas and wild lands are just being investigated.

### Questions to ask, answers to be found

For journalists, the shale oil and gas boom is a trove of stories of struggle and prosperity and unanswered environmental questions.

For instance, does fracking cause earthquakes? If so, you as a reporter might ask if the energy company doing the fracking is responsible if houses are damaged.

Or you might ask, how many oil and gas spills are occurring in my neighborhood? How many inspectors are keeping tabs on the wells in my state, and why aren't there more? Whose property could soon be crisscrossed by new oil and gas pipelines? How many crude oil tanker trains pass through my town? What are the oil wells in our neighborhoods doing to property values? Is fracking affecting groundwater? What does it mean for children's health when fracking occurs near a school?

Many state regulators' websites are ripe for data mining, allowing you to learn what areas are being leased for oil and gas development, how much oil and gas is being produced there, where spills and water contamination are occurring and how much companies have been fined for breaking the rules.

Some states are more transparent than others with rules enforcement data available online, so don't hesitate to file open records requests for data not available online.

Overall, though, online resources are abundant to help you find answers to questions about fracking, and a good place to start is SEJ's own online fracking reporting toolbox. <http://bit.ly/1sLIFdz>

Here are some other questions you might have about how fracking could be affecting your community, and where to go to find information:

### Question: How does fracking work?

- **FracFocus.org:** FracFocus not only provides a technical overview of the fracking process, but the website is the primary place where energy companies publicly report the locations of their fracking operations, many of the chemicals used in each frack job and how much water was used. Some of the chemicals are listed only as trade secrets and are not disclosed on the website.

- **U.S. Energy Information Administration:** The EIA provides a plethora of data on oil and gas production across the United States and is a wealth of information about where energy comes from and how it is used. The EIA also features the U.S. Energy Mapping System, which is an interactive mapping tool designed to allow users to search for oil and gas wells and other energy infrastructure anywhere in the country.

- **National Energy Technology Laboratory:** The NETL pub-

lishes and periodically updates comprehensive primers on fracking and shale oil and gas development in the U.S., a good source for a technical overview of the fracking process.

- **FracTracker Alliance:** Once a project of the University of Pittsburgh, the FracTracker Alliance tracks the spread and impact of shale oil and gas development across the United States and features interactive maps and data on its website.

### Question: Where are spills occurring and what are they doing to the air and water?

- **EPA:** The U.S. Environmental Protection Agency is in the process of writing a rule that may govern how the air and water are affected by fracking. The EPA also features technical documents on its fracking website that describe the fracking process and many of its risks.

- **GAO:** The U.S. Government Accountability Office has published numerous reports on shale oil and gas and their economic and environmental impacts.

- **States:** Individual state regulators' websites are often the best places to find information on oil and gas related spills and releases and other related permitting information. Every state's level of reporting and disclosure is different, and some states may require an open records request for data that others may provide online for free. Here are regulators' websites for selected states:

- **The Colorado Oil and Gas Conservation Commission:** The COGCC provides a wealth of data on oil and gas well permits, spills and releases, fines and much, much more.

- **The North Dakota Oil and Gas Division:** This website features oil and gas statistics for the state of North Dakota, as well as searchable maps, drilling activity reports and more.

- **The Texas Railroad Commission:** Texas' chief oil and gas regulator posts periodic reports on environmental and oil and gas



Drill bits with synthetic diamond tips like this one are often so expensive that oil and gas companies lease them for jobs, rather than buy them outright. This particular bit helped bore a hole nearly two miles long.

Photo by Adam Hinterthuer, IJNR

## SEJ President's Report...continued

journalists and journalism educators. Hopefully it will make it easier for us to remember them and thank them when we see their name tags at next year's annual conference in Oklahoma. And going forward, their work building SEJ should continue to inspire our own.

As envisioned by the founders, the "forum" that has emerged over the years has proven invaluable for teaching and guiding journalists, and also for helping supply us with the confidence and courage needed to report on the world's most important stories. It has grown and will continue to evolve, through new leaders and new programs.

Let's use the coming anniversary to renew the group's commitment to improving the quality, accuracy and visibility of envi-

ronment reporting at a time when more and more of our members, like Tom Henry, are covering game-changing stories and battling daily to protect the public's right to know, while navigating the self-serving spin and lack of transparency increasingly employed by government and industry.

It's been 25 years, and there's still nothing fluffy about any of that.

Don Hohey covers environment at the Pittsburgh Post-Gazette. A long-time SEJ board member, he is now treasurer and finance chair. The new president, Jeff Burnside, will contribute this column starting next issue.

rules compliance enforcement. The TRRC also features a searchable map of oil and gas infrastructure on its website.

- **The Pennsylvania Department of Environmental Protection:** Pennsylvania's oil and gas regulator's website includes data on oil and gas well permitting, environmental compliance, drilling activity and more.

**Question: Does fracking cause earthquakes?**

- **The U.S. Geological Survey:** The USGS not only operates an online map which shows earthquakes occurring in real time, but USGS scientists are conducting ongoing research about how fracking and fracking wastewater injection might induce earthquakes. For example, a new USGS study published Sept. 15 in the Bulletin of the Seismological Society of America shows that fluid injection association with fracking is the cause of earthquakes in the Raton Basin of Colorado and New Mexico, an area of heavy coalbed methane development.

### Question: How might fracking affect public health where I live?

- **The Colorado School of Public Health** has conducted some of the

most comprehensive studies on the effects of oil and gas development on public health so far, but researchers there have said there is much scientists don't know about how fracking affects health. A listing of recent public health studies was compiled by ProPublica earlier this year.

*Bobby Magill covers energy and climate change as a senior science writer at Climate Central in New York. He previously covered energy, fracking, public lands and other environmental issues for a decade at the Fort Collins Coloradoan, Grand Junction Daily Sentinel and other newspapers in New Mexico and Colorado, and has freelanced for Popular Mechanics, New West and High Country News.*

# Taking the Chaos out of Your Disaster Coverage

By NANCY GAARDER

Disasters challenge even the best reporters. Events are chaotic, answers are hard to come by and sources often are obscured by bureaucracy or the chaos of the moment.

But there are ways to work past that confusion. For instance, when a spill occurs, NOAA's top emergency responder Charlie Henry says here are the five questions to ask:

- What was spilled?
- Where is it going?
- What's at risk?
- How will it hurt?
- What can be done to mitigate?

So, here's an array of things to know and ways to find them out when covering a disaster on your beat.

## What materials are known to be involved?

The "Right-To-Know Act" makes some information available via the Toxics Release Inventory and Tier II program ([www2.epa.gov/epcra](http://www2.epa.gov/epcra) and <http://rtknet.org/>):

- Toxics Release Inventory: Publically and easily available on-line. This provides information on some, but not all, industries in your community. The TRI lists some of the chemicals routinely released into the land, air and water, along with potential health effects and known violations. It's interactive, so you can enter street address/zip code and get a map with links to information about facilities in that area.

- Tier II data: Public, but not easily available. You'll need to go to your local fire station or other first responder to see this. It is the information that industry is required to provide first responders. It will tell you what's stored on-site, where it's stored and the maximum quantity. Industries are required to provide this only to their local first responders – not neighboring fire departments, etc., so mutual aid first responders may not have the benefit of this information.

## What are the properties and risks of the materials involved?

Here's what you can check into on deadline:

- New Jersey Fact Sheets: Good source for all states, not just New Jersey. Provides the material safety datasheets that manufacturers issue to those buying their chemicals. Proprietary information is excluded from safety sheets.

- CDC's Agency for Toxic Substances and Disease Registry: Website describes chemicals and their effects on human health. This is the agency that publishes ToxFAQs.

- EPA's Integrated Risk Information System, IRIS: Looks at potential human health risks from exposure to environmental contaminants.

Then, when you have more time, you can search peer-reviewed journals for stories that have summarized research about the contaminant. Also, look for case studies. And, check out:



Disasters involving burning chemicals, such as the fertilizer plant explosion that ripped through West, Texas, in 2013, pose additional risks beyond the normal dangers of a structural fire for reporters covering them. Photo: © Mike Stone / A Name Like Shields Can Make You Defensive, via Flickr

- EPA Title V annual air permits: Required by the Clean Air Act, these permits regulate emissions by major industries. The permits detail the types and amounts of some emissions. Your industries' Title V permits may be obtained from your local air quality regulators, at the state or federal level, depending upon how your state is regulated.

- Inspection and compliance orders: Regulated industries must obtain permits to release pollutants into the environment. These permits, and the corresponding inspections and compliance orders, are available from state or federal regulators, and in some cases, at the local level. This is another avenue to find out about documented problems at a site.

- EPA ECHO: Enforcement and Compliance History Online: Searchable database of enforcement actions. Note: Make sure to verify all information, as explained in this previous *SEJournal* Reporter's Toolbox: <http://www.sej.org/publications/sejournal-su-fall12/epas-echo-database-your-two-faced-best-friend>. It may not provide a complete history, either.

- Also, develop sources you trust and contact your colleagues on [SEJ-TALK@LISTS.SEJ.ORG](mailto:SEJ-TALK@LISTS.SEJ.ORG).

But the key takeaway is, in the immediate aftermath of a spill/release, first search the TRI for what might have been released and then go to the New Jersey Fact Sheet for information about that substance.

## Know your common chemicals.

Familiarize yourself with the main categories of contaminants and you'll be better prepared when something happens in your community. Here are some common contaminant categories:

- Volatile organic compounds (VOCs): Most common types: benzene, toluene, ethylbenzene and xylene, ethylene dichloride and vinyl chloride. Any spill associated with oil and gas will contain benzene, toluene, ethylbenzene and xylene. These evaporate easily and quickly and some can be very toxic.

- Semi-volatile compounds: Polynuclear aromatic hydrocarbons, benzo(a)pyrene, naphthalene. These don't evaporate as quickly as volatiles and can persist in the environment for decades.

- Heavy metals: Arsenic, cadmium, chromium, lead, mercury, vanadium. These will persist in the environment for a very long time.

- Pesticides: DDT, chlordane, 2,4,5-T, atrazine, carbamates
- Dioxins, furans and PCBs: 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD
- Radioactive components: Radium 226, radium 228, uranium 238, radon gas.

## Agencies and resources involved in emergency response

- EPA's National Response Center: This is the federal center that serves as the clearinghouse for all major spills and releases. While the initial emergency call during a crisis will go to local first responders, the law requires those responsible to contact the National Response Center about spills and releases.

The center fields an average of 20,000 calls or electronic notifications a year and posts them online. <http://www2.epa.gov/emergency-response/national-response-center>. As an aside, the EPA has monitoring aircraft that flies over spills and large events such as the Super Bowl.

- NOAA Office of Response and Restoration: In the 1970s, when it became obvious oil spills were becoming larger and more complex, the Coast Guard turned to NOAA to provide scientific support for cleanups that involve major rivers and water bodies such as the Ohio River, Gulf of Mexico and Great Lakes. <http://response.restoration.noaa.gov> The NOAA office helps with about 170 oil and chemical spills each year and trains more than 1,000 first responders annually. Reporters can take advantage of this training, which is provided several times a year.

- Local Emergency Planning Committee: Communities are required to have emergency response plans in place, and the plans are public documents. Because of the post-9/11 surge in Homeland Security funding, local first responders have become better

equipped, so they're less reliant on the federal government and are more prone to take the lead in a cleanup (the feds still have to be notified). This is one reason it's important to get to know local officials and local plans.

- Nuclear power plants: In a nuclear power plant crisis, the utility is responsible for addressing problems on site and for monitoring radiation releases. Local and state officials make decisions about evacuation and sheltering in place. To track radiation releases nationwide, check the EPA's RadNet: <http://www.epa.gov/radnet>.

Other ways to get up to speed on nuclear power plants: Learn to use the Nuclear Regulatory Commission's ADAMS database. Attend the NRC's annual public review of your local nuclear power plant – which will also give you a chance to meet plant personnel and NRC staff. Ask for a tour of your nuclear plant, and ask to participate in or observe the large-scale drills that nuclear plants are required to do every two years. Learn ahead of time which agency is responsible for which piece of the response in a nuclear accident.

For an overview of how a disaster would be handled, do an internet search on the NRC's Background on Emergency Preparedness at Nuclear Power Plants, the Union of Concerned Scientists' Emergency Planning and Preparedness for Nuclear Disasters, the Nuclear Energy Institute's fact sheet on Emergency Preparedness at Nuclear Energy Facilities and [www.ready.gov/nuclear-power-plants](http://www.ready.gov/nuclear-power-plants).

Additionally, David Lochbaum of the Union of Concerned Scientists is a source many reporters use for an outside, but expert, perspective on nuclear power. Lochbaum has worked in industry and at the NRC. The industry group, NEI, also will make someone available to walk you through a general idea of what is happening, or at least of the processes involved.

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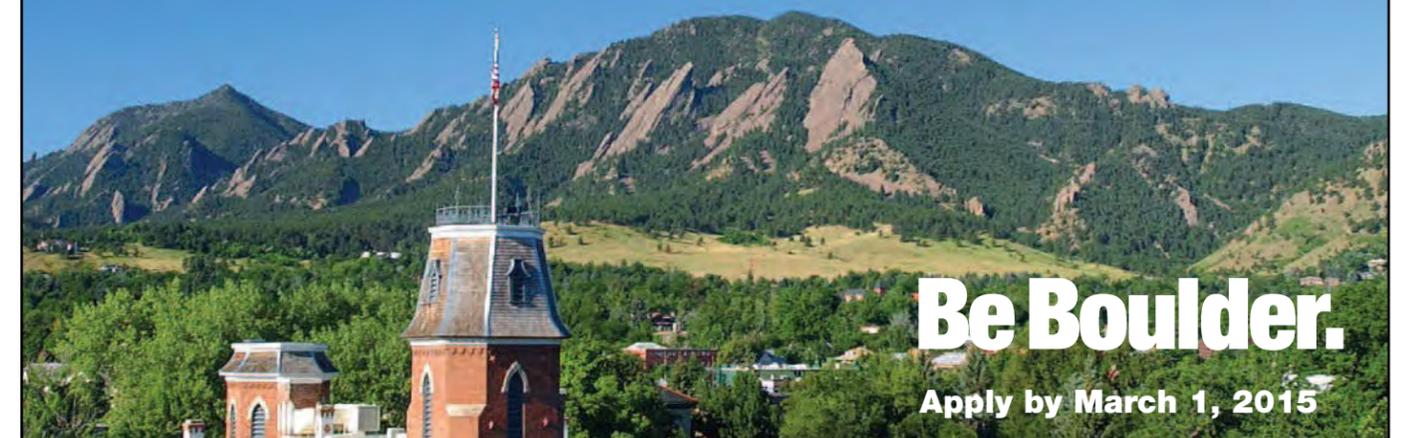
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## Command structure during disasters

Learn who is in charge and how authority is delegated, and this will better assure your questions are more quickly answered.

As a result of lessons from past disasters, a command structure has been standardized under the National Incident Management System. It's a professional, one-size-fits-all organizational chart and it pulls in people from all levels and many branches of government, as well as private industry and nonprofits.

These entities run drills, so that when a disaster occurs, personnel can parachute in from around the country and know immediately their roles, meeting schedules and where they fit in the organizational structure. The incident commander has authority over people who might otherwise outrank him (including politicians).

Realize that no one really knows what's going on at first. Even first responders may not know what they're dealing with. Be wary of initial reports, and convey to the public the uncertainty surrounding information.

The release of information to the media and public typically is handled by a Joint Information Center (called a JIC). In a big crisis, public information officers from around the country will come in to help out. For smaller crises, a local elected official or career government person may be appointed to handle the media.

The goal of these JICs is for all the entities to collaborate and speak with one voice. Sometimes this can facilitate the release of information, but just as often, it's an impediment because the flow of information is dependent on the competence of a single spokesperson and that person's access to information.

Tip: Try to interview the deputy incident commander. You won't be able to talk with the incident commander because that individual is swamped. But his or her shadowing deputy may be willing to talk with you.

During a large-scale disaster, there may be multiple incident command-type centers. During the Missouri River flood of 2011, cities established their own, but the Army Corps of Engineers also had a command center. Each command center had its own media plan.

## Learn the jargon

Know the language, as well as the stages of a response, so you can frame your questions correctly.

For example, there's a difference between monitoring and sampling. Monitoring is done immediately to provide first responders a sense of the situation. It's not quality controlled and not something other than a first quick glance.

Sampling data is more systematically collected and quality controlled because it's the data that will be used to guide the cleanup and make decisions about public health. At best, sampling results might be available in 48 hours, if expedited. However, the results could take 10 days or more.

If the response has moved to the sampling process, don't get hung up on the lack of data; you can't rush it. Instead inform your public about the process of data collection and the timeline for release.

Whose fault is the spill? The cleanup typically is handled by one set of workers while the investigation and enforcement is handled by others. Those doing the cleanup probably can't address the issue of fault.

Also, that information could be hard to come by, no matter what, because it's being gathered for future legal action and the government will want to protect its eventual legal case against the responsible party.

## Watch for the caveats:

- Chemicals have different properties and may react differently from spill to spill. An action properly taken in one cleanup may be inappropriate in another. First responders have a saying: No two oil spills are alike, so be careful about generalizing.

- Some disasters pose multiple threats, so there may be no right thing to do except let the disaster take its course (i.e., evacuate nearby neighborhoods and let a fire burn out).

- Collateral danger may not be immediately obvious: During the BP oil spill, first responders focused on cleanup in the Gulf, but the air was contaminated too, so pollutants were inhaled by people in on-shore communities.

- Realize that no one really knows what's going on at first. Even first responders may not know what they're dealing with. Be wary of initial reports, and convey to the public the uncertainty surrounding information.

- Expect your editors to pressure you to match reports by other media, but resist reporting anything you can't verify.

- Sources of information, including official ones such as the TRI and Tier II data, are often incomplete or in error.

- Just because you smell something doesn't mean it's dangerous and just because you can't smell something doesn't mean you're safe.

- Evacuation routes may be the same route emergency responders are taking in.

- Just because the federal government is involved does not mean the federal government is in charge. Emergency response starts at the local level.

## Covering severe weather

The National Weather Service has meteorologists in local offices scattered across the country and available to answer your questions. The agency also will embed meteorologists in the incident command center to help when that's appropriate.

Be careful when using a forecast from the area where a disaster is unfolding, because the weather at the disaster site may be different from what is provided for the general area. Fires, for example, can generate their own winds.

To reach a local weather service office or for details on severe weather in local areas, click on the National Weather Service's interactive map at [weather.gov](http://weather.gov)

*Nancy Gaarder is a reporter at the Omaha World-Herald, and organized a workshop on disaster coverage at the SEJ annual conference in New Orleans in 2014, from which much of this material was drawn (more at <http://www.sej.org/initiatives/sej-annual-conferences/AC2014-coverage#workshop1>). She is also co-chair of the upcoming SEJ 2015 annual conference in Norman, OK.*

## Your Packing List for Reporting a Natural Disaster

By EMILY GERTZ

Earthquakes, hurricanes, chemical spills and more: Natural (and unnatural) disasters intersect frequently with the environmental beat. And reporting from the scene of a disaster means taking particular care with what gear and supplies you bring with you.

Will there be power where you're going? Safe drinking water? Open gas stations? How will you file your stories if land lines or cell phone networks aren't operating?

"Assuming this is a domestic disaster, the play is usually to drive in from some distance away or to be operating in an area where you are working out of a car," says photographer Andrew Cutraro, who has covered diverse crises ranging from war in the Middle East to tornadoes in the Midwest.

But journalists don't want to become part of the story they're trying to cover, according to reporter Scott Dodd. Dodd recalls how, before heading to the Gulf Coast in 2005 to cover Hurricane Katrina for the *Charlotte Observer*, he and a colleague crammed a car with as much canned food, extra fuel and bottled water as it could fit (on top of themselves, clothing and gear).

That said, for the paper's "Covering a Hurricane" tip sheet, Dodd and colleagues suggested that reporters try to eat one hot meal a day, and if possible land stories in the process. "In disasters, there's almost always a charity group or church feeding people if restaurants aren't open. Those are good places to make contact with people who can tell you stories, as well," they wrote.

Use the following list as a starting point for creating your own beyond-the-basics packing list.

- Appropriate gear: rubber boots, sun hat, dust mask, shoes with chemical-resistant soles, etc.
  - Reflective safety vest
  - Cold weather gear
  - Rain gear
  - Emergency blanket and/or poncho
  - Sleeping bag
  - UPF-rated sun-protective clothing
  - Underwear, plus extra socks and T-shirts
  - Blood donor card (to facilitate medical care if you happen to need it far from local medical records)
  - Health insurance card
  - Press credential, such as a business card or company-issued ID. Bring two if you can.
  - Assignment letter on publication letterhead (especially important for freelancers)
  - Cash
  - More cash
  - Multiple five-gallon cans of gasoline
  - Sufficient basic toiletries – toothpaste, deodorant, etc.
  - Sufficient prescription medications in labeled bottles, plus paper copies of prescriptions
  - Spare prescription eyeglasses or contact lenses, plus copies of those prescriptions
  - Condoms and/or other contraceptives
  - Sunglasses
  - Water disinfectant and/or filter
  - Bottled water
  - More bottled water
  - Hand sanitizer
  - Wet wipes
  - Sunblock
  - Lip balm
  - Hand and feet warmers
  - Tampons or sanitary napkins
  - Well-stocked first aid kit containing: Adhesive tape, antiseptic cleanser, bandages, emollient eye drops, insect repellent and bite treatment, antihistamine cream or tablets, nasal decongestant, oral rehydration salts, scissors and safety pins, simple analgesic (such as aspirin or Tylenol), hydrogen peroxide and/or Betadine, alcohol, sterile dressing, thermometer, earplugs, antidiarrheal medication such as Imodium, anti-indigestion/heartburn medication, broad spectrum antibiotics such as ciprofloxacin, doxycycline ("Just start taking it as a prophylactic," suggests Cutraro), anti-fungal powder or cream, sedatives
  - Pocketknife, or utility tool such as a Leatherman
  - Small flashlight or headlamp with extra batteries
  - Portable radio with extra batteries
  - Extra earphones
  - Plastic bags, Ziploc bags
  - Rubber bands
  - Notebooks, pens and pencils in a plastic bag
  - Pencil sharpener (pens won't write on wet paper. Pencils do)
  - Bottled water
  - More bottled water (did we say this already? maybe, but remember that this can make you friends)
  - Non-perishable foods that don't need cooking: Crackers, peanut butter, energy bars, apples, Cheetos, tuna packets, instant coffee, etc.
  - Can opener if you have cans to open (even if you don't have cans to open, this, like bottled water can make you friends – and may get you fed!)
  - Disposable camera (in case camera batteries cannot be found or recharged)
  - Satellite/BGAN phone – see <http://www.bgansatellite.com>
  - Vitamin supplements
  - Digital recorder
  - Every possible charging and data cable for your digital equipment (and backups)
  - Power inverter to charge laptops, cell phones, and other gadgets from a car's 12v cigarette lighter. Cord to do same.
  - External battery for charging digital equipment
  - Extension cord
  - Small multi-outlet power strip
  - 100 feet of 550 parachute cord (for clothesline, lashing gear to car roof or backpack, etc.)
  - Gaffer's tape for fast repairs to tears in protective clothing or other gear; tacking down cables; etc.
  - Roll of toilet paper
  - Towels
  - Cooler to fill with ice
- Adapted in part from materials created by the Charlotte Observer and the Committee to Protect Journalists. Emily Gertz thanks Michelle Nijhuis, Robin Mejia and Jennifer Cutraro for their contributions.*

# Swimming With a New Tide

By ROGER ARCHIBALD

Steve Ringman started out his career in photography using a 4" x 5" view camera that traces its roots back to the cameras using glass plate negatives that became popular during the Civil War era.

And yet in 2014 he became the first photographer to win SEJ's prestigious Kevin Carmody Award for Outstanding In-depth Reporting. How? He embraced multimedia.

Ringman and reporter Craig Welch of the *Seattle Times* took first place for large market publications with their series entitled "Sea Change: The Pacific's Perilous Turn," about the impact of ocean acidification at a number of locales around the Pacific Rim. The report also took first prize for explanatory reporting in the Online News Association 2014 awards.

Their global reporting grew out of a local story the two had covered four years earlier from the southwest Washington coast, where, according to Ringman, "an upwelling of ocean waters had killed all the young oyster larvae, destroying a full year of production."

It was during the course of that story when they realized that ocean acidification was world-wide in scope. It inspired them to pursue the broader story, with the help of a \$19,000 travel grant from the Pulitzer Center on Crisis Reporting.

A 30-year veteran news shooter of the old school when photographers returned from assignment only to disappear into a darkroom to 'soup' their film and make prints, Ringman could well have become the poster child for obsolescence in the newsroom, had he not made the effort to embrace multimedia.

"Never in my wildest dreams did I think shooting stories with large sensor digital video cameras would be in my future," he recalled. Now, video constitutes a significant portion of his daily work assignments.

"I was the first photographer to start shooting video at the paper when the revolution began many years ago," said Ringman. "Since then, times have changed dramatically. ... Anyone that is now hired as a photographer has to know how to shoot video as well." But, he added, "It's finding the time and skills to edit video that has been the challenge for some of us who have been here a long, long time — like me."

The transition to digital was not the only obstacle Ringman has overcome. When planning with Welch to report on ocean acidification, they realized they would have to accompany scientists working



Using flashlights, Papua New Guinea fishermen "dodge tiger sharks and saltwater crocodiles to spear small fish at night," the Sea Change series reported. "I was scared a couple of times, especially during night dives," photographer Steve Ringman admitted, but "Craig (Welch) always watched my back underwater."

Photo: © Steve Ringman, *Seattle Times*

under water. The problem? Neither of them had diving experience.

But that didn't stop them. Said Ringman: "We quickly were certified to dive in our freezing Pacific Northwest waters, so we could launch into the 85 degree, crystal clear waters of Papua New Guinea for reporting and shooting." Not a bad incentive.

*Roger Archibald is the SEJournal photo editor.*



*Seattle Times* photographer Steve Ringman snaps a salt water selfie with reporter Craig Welch (left) in Papua New Guinea. "Craig and I have traveled and reported extensively together for the last 10 years—mostly global warming," Ringman says. "We've covered fisheries, mining, forests and lots of creatures in and out of the water, so yeah, we're a team." Photo: © Steve Ringman, *Seattle Times*



In a shipboard lab set up aboard a support vessel stationed off the coast of Papua New Guinea, a biologist documents microscopic marine life that collected on a ceramic tile that had been placed on a nearby coral reef. Photo: © Steve Ringman, *Seattle Times*



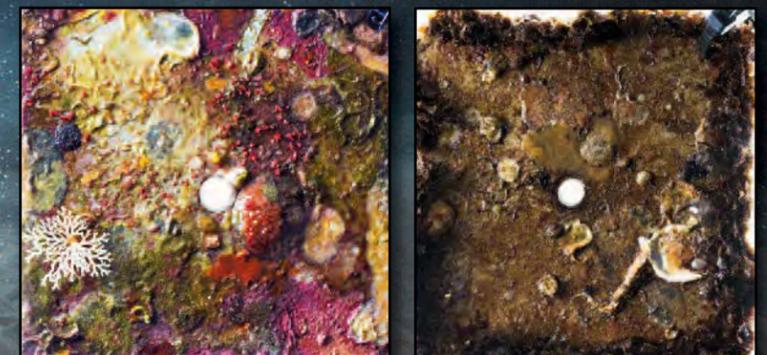
A researcher swims through bubbles of carbon dioxide rising from the sea floor off Papua New Guinea. In a process chemically equivalent to what happens in a carbonated beverage, these waters offer a glimpse of how carbonic acidification is likely to transform all the world's oceans.

Photo: © Steve Ringman, *Seattle Times*



Ocean acidification isn't just happening in the tropics, and for coverage of how it's affecting other habitats, Ringman spent ten days on a crab boat in the Bering Sea, where he photographed a crewman retrieving a crab pot in sub-zero temperatures the old-fashioned way—by heaving a grappling hook. Even by "Deadliest Catch" standards, this journey "turned out to be one of the most treacherous trips the crew had experienced in years," according to the Sea Change series, leading Ringman to vow, "I'll never go out in the Bering Sea in a fishing boat again."

Photo: © Steve Ringman, *Seattle Times*



A healthy reef sample on a piece of ceramic tile (left) reveals colorful beginnings of new baby corals and coralline algae, while on a corresponding unhealthy sample (right), algae and seaweed crowd out coral growth, a corrosive condition expected to impact all the world's oceans by the end of this century.

Photos: © Steve Ringman, *Seattle Times*

# Trendspotting on the Science Beat

Award winner makes technical training a strength in uncovering sources, stories

Chemical & Engineering News' Cheryl Hogue recently won first place in SEJ's 13th annual awards for outstanding beat reporting small market, for stories including how microbeads in personal care products impact the environment and how the Small Business Association has become a mouthpiece for industry on chemical issues. Hogue, the magazine's assistant managing editor for government & policy, with a background in science and policy, has worked at the American Chemistry Society weekly publication since 1999, where she has reported on a wide range of subjects from climate change to the regulation of commercial chemicals. Judges cited her for her "clear, direct writing" in stories that "give readers important insight." Hogue spoke to SEJournal's "Inside Story" editor Beth Daley about her work.

**SEJournal:** Many subjects you cover are new issues that other media outlets later pick up on, such as microbeads and a story on toxic tort cases. Where do you find your ideas?

**Cheryl Hogue:** I track environmental policies across the United States by reading news aggregators such as Above The Fold, or tracking Safer States' database of state legislation on chemicals (<http://www.saferstates.com>). I've spotted trends emerging, like the city bans on plastic foam food containers. Some ideas come when I get out of the office and mingle with sources – and meet new ones – before or after a congressional hearing or at EPA public meetings.

**SEJournal:** Your educational background is in science and policy. How important do you think such specialty degrees are to journalism?

**Hogue:** When I started my professional career fresh out of college, many editors saw my undergraduate degree in biology as a liability, not a strength. They were expecting journalism or English majors to apply for their positions and questioned why I was applying for a reporting job, despite my four years of experience writing for the student newspaper. I struggled with chemistry for two years, yet completing that coursework helped get me two jobs and entry into graduate school for environmental science. Because of my academic background, I've been able to effectively interview and understand scientists – academic, industry, and government – from a broad swath of disciplines related to the environment.

Regardless of their degrees, journalists need to be numerate,

not just literate. Years ago, I used to calculate percentage changes for several fellow reporters at a newspaper, which was scary because no editor was checking my results. I took a statistics course at a local community college and we read a thin little book called "How to Lie with Statistics" that has helped me ferret out a boatload of B.S. in Washington.

**SEJournal:** Your writing is incredibly straightforward and fair. How do you keep bias out of your reporting and what is the response to your articles from the chemical and laboratory industry?

**Hogue:** Keeping bias out of reporting is basic due diligence for old-school journalists: we check out the claims that sources make and follow the money. Someone will be making or losing money with every environmental policy decision – and we need to tell our audience who has skin in the game. I write for an audience of scientists who are extremely picky about how facts are presented and will call us on anything they think leans too far in favor of environmentalists or industry.

**SEJournal:** Your stories are exhaustively reported and often on dense material, but they are very readable. Do you have any rules of thumbs to keep stories simple?

**Hogue:** Write short declarative sentences. Use the active voice. Seek out jazzy verbs and memorable comparisons – but accuracy trumps everything else. Give technical information in small chunks at a time. Keep the story short.

**SEJournal:** What was the hardest story for you to get and why?

**Hogue:** The story on Congress changing how EPA gets its science advice took a lot of digging. So many times politicians simply call witnesses who share their political agenda to testify at hearings, disregarding other sources who could give a more measured response or an alternative view. Knowing who the other knowledgeable sources are is not immediately apparent – many scientists steer clear of politics, especially the highly partisan kind practiced on Capitol Hill nowadays. Unlike the leaders in Congress, I gave a voice to those who actually served on the EPA Science Advisory Board, which I've covered on and off for 25 years.

**SEJournal:** How did you dig deeper into the microbead story?

*Continued on page 18*



Using fine mesh nets, researchers skimmed the surfaces of the Great Lakes in 2012 and 2013 for tiny bits of plastic known as microbeads.

Microbeads are so small, that it takes dozens of them to cover the head of Abraham Lincoln on a penny.

The weathering of a microbead from its time in the Great Lakes shows up clearly in this scanning electron micrograph. Photos: Courtesy 5 Gyres Institute

# Committing to Collaboration

## How Two Freelancers Pulled Off A Cross-Pacific Partnership

By WINIFRED BIRD and JANE BRAXTON LITTLE



Fukushima / Chernobyl project collaborators Winifred Bird (left) and Jane Braxton Little. Photo courtesy of Jane Braxton Little

Winnie started freelancing the way every book on the subject advises you not to: without ever having stepped foot in the office of a newspaper, magazine, or even her high school yearbook. This caused her considerable anxiety and envy, in particular each time she read a newspaper article with shared bylines. Oh to be on that collaborative team, with counterparts writing from New York and Paris while she reported from her desk in Japan!

She put in a good three or four years of solitary toil before SEJ's Elizabeth Grossman tipped her off that freelancers can cooperate, too. Lizzie suggested teaming up to investigate the damage to chemical factories caused by Japan's 2011 tsunami and earthquake. They pulled it off successfully and published the story in *Environmental Health Perspectives*. Since then they've done two more major collaborations, each of which has been eye-opening, challenging, and – most of the time – a lot of fun.

If every freelancer works in a self-created vacuum, virtual or otherwise, Jane's is also geographic. The closest colleagues – and bookstores, lattes and brewpubs – are two hours away on a treacherous two-lane mountain road. So when SEJ's Dawn Stover asked her to collaborate on a case study about conservation in Tanzania and other equatorial sites, she welcomed the opportunity. This was not her first partnership as a writer but it inspired the confidence that she could tackle a major undertaking with another journalist. She was hooked on the synergy that generates a result greater than the sum of the individual contributors. She still is.

### The Fukushima/Chernobyl project

Neither of us remembers exactly when we committed to collaboration. We were friends and a former SEJ mentor pair (Jane as mentor, Winnie as mentee) with a shared interest in how the Fukushima disaster was affecting forest ecosystems and rural communities.

As we **email-mused** about turning this focus into separate pitches for magazines we had both worked with, our ideas expanded to include Chernobyl and the effect of radiation, then 25 years after that disaster. At some point it was clear that the scope of the project we were envisioning was more than either

one of us wanted to take on alone. We agreed to team up. That was the first of a series of decisions that evolved almost organically – a process that became the hallmark of our working relationship.

Early on, we addressed our separate concerns about collaborating. We were honest about our **insecurities**, each believing that the other could write the story alone. That led to a frank discussion of what we thought we could bring to the effort individually and how we could each benefit by collaborating.

While we never spelled out an agreement establishing boundaries or responsibilities, these initial discussions helped create a trust that served us well throughout the process of **writing** and revising a total of almost 13,000 words together. Our joint stories appeared in *Environmental Health Perspectives*, *Earth Island Journal*, and the *Bulletin of Atomic Scientists*; one long essay never found a home.

### Collaboration 101

**1) Planning your symbiosis:** What are you missing? What can you contribute? Try to think beyond the givens of cross-fertilized ideas, editing and companionship to more practical benefits before you plunge in:

- If you want to write about a story happening far away but don't have the travel budget to go there, **teaming up** can get on-the-ground reporting into your article.

- Consider your language skills and local knowledge. For multi-country stories, a partner can sometimes do interviews and research that would otherwise be impossible, or save you the expense of a translator.

- Collaboration can bring the project computer skills, data manipulation and math or science **expertise** that you lack. We both learned how to quickly convert miles into kilometers and hourly radiation exposure into annual dosages.

- Your strengths may be developing a narrative and bringing characters to life. Look for a partner whose writing skills contrast with and complement your own.

- Does your partner have a foot in the door at your dream publication? Those connections can land

Jane Braxton Little  
Comment (2): Surely not us!

Winifred Bird 8/23/14 11:57pm  
Comment (3): and rewriting & rewriting

Winifred Bird 8/23/14 11:57pm  
Comment (4): What do you think about "mutually parasitic relationship" here?

Jane Braxton Little  
Comment (5): Honest! But appropriate?

Jane Braxton Little  
Comment (6): And there went my heart's desire trip to Japan!

Jane Braxton Little  
Comment (7): Like learning how to spell Chernobyl?  
Comment (8): Winnie Queen of Footnotes

Winifred Bird 8/23/14 11:57pm  
Comment (9): Wait a second, I thought we were relying on YOUR footnoting expertise . . .

Jane Braxton Little  
Comment (10): Once I figured out the difference between milli- and micro-sieverts.

you assignments for your collaborative project as well as future stand-alone stories.

- What time commitments does your project require? Working together lets you share the challenge of extensive interviews and research you might find daunting on your own.

### 2) Making it work financially:

- Make sure the project is big and meaty enough to make it worth your while to split the income.
- Consider doing a series of stories on the topic. We did four together.

- Get at least one assignment from a well-paying publication. Our per-word payment ranged from “paid in exposure” to \$2/word.

- Think about individual projects to spin off from the shared reporting. We each did newspaper, magazine and online pieces inspired by the larger shared project.

### 3) Tools:

- Dropbox or other cloud-based file-sharing services are essential. Establish a system of folders and sub-folders each partner can access. We stored scientific documents, interview transcriptions, notes and working drafts in separate folders. It's important to avoid working on the same file simultaneously. Dramatically different time zones helped us.

- Track changes allows you to edit one another's drafts. We commented liberally – often humorously – on one another's notes and edits.

### 4) Process:

- Be clear up front about how and what each person will contribute.

- Develop a system for feedback. How much and how often is a personal preference. We both like a lot of back-and-forth. Having one another comment on notes was not only entertaining and thought-provoking. It motivated us to write better and funnier.

- Sharing typed transcripts and notes is critical. So is keeping your files well organized. Since we are

both equally anal that wasn't a problem for us.

- Decide how to divide up tasks and writing. We used the obvious geographic division: Jane reported on Chernobyl and Winnie on Fukushima. We co-wrote ledes, transitions and conclusions. And we heavily edited one another's separate contributions. Another option is to delegate the first draft to one person and then edit together.

- Don't forget to pick up the phone, hold a Skype conference, or meet in person now and then if you can. One of the big benefits here is increased human contact.

- Disagreements are inevitable. It's critical to acknowledge and resolve them. Our biggest? Whether to use past tense or present.

**5) Handholding:** The obvious and perhaps most welcome part of working together. The advice about another set of eyes extends to the heart. There's nothing like a partner to belay those middle-of-the-night moments of self-doubt and celebrate the thrill of publication.

*Winifred Bird is a freelance journalist and translator focusing on the environment and architecture. From 2005 to 2014 she lived in rural Japan, where she covered the 2011 tsunami, earthquake, and nuclear disaster for publications including the Japan Times, Christian Science Monitor, and Yale Environment 360. When she's not writing she can usually be found in her vegetable garden. She currently lives in the San Francisco Bay Area.*

*Freelance journalist Jane Braxton Little is based in California's northern Sierra Nevada, where she has worked as a U.S. Forest Service lookout, raced sled dogs and raised two fine sons. She writes about natural resources and the environment for publications that include Scientific American, Popular Science and Audubon, where she is a contributing editor. She is drawn to places on the edge and whatever lives there.*

Jane Braxton Little  
Comment (17): Thanks for not killing me for all those last-minute tweaks.

Winifred Bird 8/23/14 11:57pm  
Comment (18): Ditto.

Jane Braxton Little  
Comment (19): Wonderful surprises just when I needed them the most!

Winifred Bird 8/23/14 11:57pm  
Comment (20): Nice try Jane.

Winifred Bird 8/23/14 11:57pm  
Comment (21): Cause let's face it – not even a spouse or editor cares about a story as much as the person who wrote it with you.

Jane Braxton Little  
Comment (11): That 1 p.m. Dropbox click told me you were awake and at work across the Pacific.

Winifred Bird 8/23/14 11:57pm  
Comment (12): Bright eyed and bushy tailed at 6 a.m. Japan Time!

Jane Braxton Little  
Comment (13): Your lips actually sweat in that nuke protection suit?

Winifred Bird 8/23/14 11:57pm  
Comment (14): I've got anxiety and writer's block covered. What are you bringing to the table?

Winifred Bird 8/23/14 11:57pm  
Comment (15): Jane, you're turning us into the reincarnation of Ernest Hemingway with all these short sentences!

Jane Braxton Little  
Comment (16): You prefer Faulkner?

## Inside Story: Hogue...continued

**Hogue:** One early story in another publication about microbeads mentioned a professor at the State University of New York in passing. I looked her up and found she was a chemistry professor – a gig my audience relates to. I interviewed her four or six times, in part because the research hasn't been published yet and I had no source document to reference to get the technical details right. I asked her who else I should talk to and she led me to others working on the microbead issues.

She also mentioned she was doing further work checking for microbeads in sewage plant effluent – yet one company using microbeads had claimed that wastewater treatment plants remove these plastic bits. So I called the National Association of Clean Water Agencies, which represents publicly owned treatment plants, for their view. My source there wasn't aware – until I told him – that consumer products that are designed to be washed down the drain contain tiny

plastic spheres. Sewage plants weren't designed to remove microbeads – which is actionable information for my audience.

Some of my readers actually help develop personal care products and they might now bring up the issue of sewage plant treatability when companies consider new ingredients. Plus, most readers use toothpaste or facial washes and some might decide not to use products with microbeads.

**SEJournal:** What advice would you give to a young journalist starting out?

**Hogue:** Keep asking questions until you understand whatever it is you are reporting on. And strengthen your numeracy. You don't need calculus but build confidence in doing basic calculations.

*“Inside Story” editor Beth Daley is a 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.*

# Mentoring Match: Veteran Freelancer Guides Radio Rookie

By KAREN SCHAEFER and LANA STRAUB

SEJ's Mentor Program pairs veteran environmental reporters with less experienced SEJ members who want to improve their skills or learn new ones. But no two mentorships are alike. Mentor partners Karen Schaefer, an Ohio-based freelance journalist and independent radio producer, and Lana Straub, who is pursuing a similar career in Texas, offer their take on what a great mentoring experience can be.

**Schaefer:** What first caught my ear about Lana (remember we're both radio journalists) was her authentic West Texas accent – and her unusual take on a water quality story from her region. We were both at the freelance workshop held before the 2012 SEJ conference in Lubbock, and it was near the end of the day. I sashayed up and introduced myself – and met a remarkable young woman with a great nose for news who'd worked most of her career in print.

**Straub:** Karen impressed me right away with her directness. She immediately began asking questions about my experience in journalism and whether I had any interest in radio. Somewhere deep inside I did, but I didn't know where to start, and I didn't feel like I had the confidence to pursue it on my own.

**Schaefer:** Lana was immediately enthusiastic about giving radio journalism a try, and I offered to help. Soon we were messaging back and forth, with her asking astute questions about equipment and me answering them to the best of my ability. Before I knew it, Lana had landed an assignment from KXWT-West Texas public radio – and I was helping her craft her first story.

**Straub:** That first piece scared me to death. I remember walking into a press conference with Laura Bush – which I'd gotten into because of my blog “Water Tells” – carrying my little Olympus DS recorder and a set of earbuds. The looks on the faces of the “real” TV and radio journalists were priceless. But I stood there, bolstered by Karen's new confidence in me, and asked environmental questions of the former First Lady. And she answered them like I was one of the big leaguers.

**Schaefer:** Lana and I dealt with every public radio issue you can imagine, starting with windscreens for microphones (a necessity in West Texas) and how to gather ambient sound, then running through the whole radio reporting gamut – structuring stories, writing for the ear, even how you write out numbers in radio scripts so they can be easily read. By the early part of 2013, it was clear we had a partnership. I was already a volunteer mentor in SEJ's program. So I proposed we formalize our match.

**Straub:** Dawn Stover and Jane Braxton Little, who coordinate the SEJ mentoring program, quickly responded to my request for Karen as my mentor, and within days we were off and running in a formal mentor/mentee relationship. And Karen turned up the heat.

**Schaefer:** I find it hard to believe that more than a year has gone by since we began to work together. This wasn't my first mentorship for SEJ, but it's definitely been the most rewarding to date. Lana and I talked via Skype a few times, emailed and IM'ed frequently, and generally walked down every path a radio journalist-in-training needs to take. I think what worked for us best was the fact that we both respected work schedules and time zone differ-

ences, but were still willing to collaborate at odd hours to meet the demands of radio deadlines.

**Straub:** Before I knew it, a year had gone by and I had aired more than 30 features on KXWT, most of them well over four minutes each. I had learned radio interviewing skills, script writing, production techniques, even how to do a two-way, as a radio host interviewing a reporter. I got full station credentials during that time period and even a raise, all because Karen saw potential in me I didn't see in myself.

**Schaefer:** I'm proud to say that Lana has, in just over a year, turned herself into a radio reporter prized not only by her station (which recently underwrote the costs of her multi-day participation in a Watchdog Reporting Workshop put on by IRE and the New England Center for Investigative Reporting in Fort Worth), but also by the larger journalism world. Lana was chosen this spring by the Institute for Journalism and Natural Resources for their recent Shale Country expedition, to learn the ropes of fracking issues that beset her native West Texas. We continue to communicate whenever she needs my help. I am working on setting her up with an NPR mentor now and firmly expect to hear her on NPR in the very near future.

**Straub:** I really enjoyed being part of the mentor program and would love to mentor someone myself. I think this is a valuable part of journalism organizations and that SEJ should talk it up at the conferences. We really need to connect older, more experienced SEJers with the younger groups. I also think that encouraging journalists to go beyond their comfort zone, from print to radio to television, is an important part of journalism education. *Continued on page 26*



Karen Schaefer (left) at work reporting with at least two tools of the trade on a field trip to the Oak Ridge National Laboratory during the 2013 SEJ conference in Chattanooga, Tennessee.

Photo: © Roger Archibald



Newcomer to radio reporting Lana Straub

Photo courtesy of Lana Straub

# From Classroom to Bookshelf

## Publishing a DIY Guide to Local Environmental Issues

By DON CORRIGAN

A popular ad slogan for city tourism is “St. Louis has it all from A to Z.” That’s certainly true when it comes to hazardous waste issues or land, air and water pollution. It’s not hard to find environmental tales from the St. Louis region that grab my students’ attention and elicit incredulity.

A journalism professor in St. Louis can talk about dioxin at Times Beach, lead smelters in Herculaneum, a creek on fire across the Mississippi River near the Sauget chemical works, or the dangerous radioactive waste pile near a smoldering landfill west of Lambert International Airport.

Soon students will be asking these kinds of questions:

- How can a waste oil hauler get away with spraying roads of an entire town with a dioxin concoction?
- What prompts a state legislature to pass laws to immunize a lead company from contamination lawsuits?
- When does a landfill operator get sanctioned for allowing a landfill fire to smolder for months near a site containing radiation?

These are questions that can inspire students to research and write their own investigative stories. The local aspect of the stories propels a personal interest in the environmental issues. Knowing that these stories can be located in the students’ own backyards – sometimes literally – gives them a special urgency.

Two things become apparent right away as these questions arise. First, there is no textbook available to cover all these local and state issues. Second, no professor or journalist can be prepared to answer all of the surrounding complex questions with absolute certainty.

My own answer to these problems was to invite experts to my classroom every week to address a host of local environmental issues, and then to feed those exchanges into my own textbook, just published this April. The book, “Environmental Missouri: Issues and Sustainability — What You Need to Know,” can offer a blueprint for other professors who want to create their own local guides to environmental issues.

### Start with those in the know

I began by finding experts to address tough questions on issues I wanted to include in my book. I invited scientists, attorneys and activists to my classroom to discuss topics ranging from smog, ozone, PCBs, CAFOs, GMOs, transportation of nuclear waste and more.

These sessions with key players on the environmental scene happened every Friday in my Environmental Journalism and Communication class, which meets three times a week. Since each session lasts 50 minutes, field trips to pertinent environmental sites have not been an option, but students inspired by our regular Friday “expert sessions” made their own field trips.

On these trips, the students did interviews and took pictures of

power plant stacks, lead smelters, hazardous waste sites and habitats degraded by invasive species. These all became part of their completed story assignments, and some of the material – with appropriate attribution – was incorporated into my book to be used for future classes at Webster University.

In addition, the experts’ classroom visits provided the fodder for a Q&A section that accompanies every topic in the environmental book. The actual classroom question-and-answer sessions provided students with practice in using a press conference situation to maximum advantage.

Among the classroom visitors:

- Jeff Ettling, curator of aquatics and herpetology at the St. Louis Zoo, who talked about efforts to save Ozark hellbender salamanders suffering from polluted waterways.
- Kay Drey, co-founder of Missouri Coalition for the Environment, who talked about her years of monitoring rail transports of radioactive waste from the 1979 Three Mile Island nuclear reactor accident.
- Sue Gustafson, past president of the Audubon Society of Missouri, who talked about fending off encroachments on state and federal parks and designating Important Bird Areas.

### ‘Show me...’ a textbook publisher

Once I had the material for a textbook, the next step was finding a sympathetic publisher. That can be a hurdle, but there is always self-publishing and the Web. In my case, I was fortunate to have a local St. Louis publisher, Reedy Press, which had published two of my previous books, “Show Me ... Natural Wonders” and “Show Me ... Nature’s Wrath.”

Reedy Press was willing to work with me because I had a track record for meeting deadlines, and doing my own marketing and book presentations.

Don’t expect to get rich on this kind of local publishing. But these books are not strictly classroom fare, and I have traveled the state of Missouri for signings, presentations and sales for general audiences in the case of all three books. These experiences have been invaluable, and have provided a little pocket change beyond the usual gas and hotel costs.

I also use the books in two other courses I teach as part of my university’s outdoor/environmental journalism certificate: an outdoor/nature writing course and another on reporting natural disasters.

Most important, these excursions give me “focus groups” for feedback on my work and public opinion on environmental issues. They also give me plenty of incredible stories to take back to my students on state environmental concerns, such as personal encounters with invasive Asian Carp to testimonials and how climate change is affecting Show-Me State farming.

*Continued on page 23*

# Scapegoating the Grey Seal

## How an Author Fought Government Information Restrictions

*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 Nova Scotia-based environmental writer Linda Pannoza about “The Devil & The Deep Blue Sea: An Investigation into the Scapegoating of Canada’s Grey Seal.” The book, which explores in part how the species has been blamed for the decline in cod fisheries, received an honorable mention in the Rachel Carson Environment Book Award category of SEJ’s most recent annual awards contest.*

**SEJournal:** Your book focuses on how the powerful North Atlantic fishing industry worked with politicians and government scientists to malign a single species, that is Canada’s grey seal, for a lot of the biological changes occurring in the ocean. How did you get on to this story and what inspired you to stick with it?

**Linda Pannoza:** In 2009, a newly elected government in the province of Nova Scotia had not only opened up Hay Island — a protected wilderness area — to commercial sealing, but it proposed to change the Wilderness Areas Protection Act to accommodate it. The argument coming from the government and industry was that the grey seals were harming the biodiversity of the wilderness area by eating too many fish, namely cod, and stunting the recovery of the species.

I attended the public hearings held by the Law Amendments Committee and heard submissions by world-renowned scientists from Dalhousie University who argued there was no science to support the view that the seals were holding back the recovery of cod. One scientist, Boris Worm, even said the seals could be helping the cod. Well, this just got me hooked — if there was no science, then what was behind the push to kill the seals?

Once I began researching the subject I was stunned and absolutely fascinated by the complexity of the issues and this, combined with the possibility of a massive cull of the herds, kept me inspired and committed to carry on despite how daunting the task seemed.

**SEJournal:** Certainly, you must have encountered adversity along the way — people in authority claiming you were going down the wrong path and trying to steer you in other directions or off the story completely. Were you ever threatened? What extra challenges did you encounter going against the grain and challenging authority and challenging big money?

**Pannoza:** I was never personally threatened, though I did feel a certain amount of fear for a couple of reasons. For one, I live in a fishing community and historically on the East coast of Canada there have been violent confrontations between sealers/ fishers and animal welfare activists. I wasn’t sure how the book would be received by the fishing community. And, quite frankly, I was worried I might be pigeonholed.

But from the very start my aim was not to feed into what had become a highly polarized issue, because in reality these simplifi-



Adult grey seals hauled out along the south beach of Sable Island, a narrow 26-mile-long sand spit notorious for shipwrecks in the Atlantic Ocean 180 miles south of Nova Scotia, where approximately 50,000 of them live.

Photo courtesy Zoe Lucas

cations and dichotomies don’t even begin to address the complexities at hand. So far, I haven’t received any negative feedback and I think for the most part the book is considered to be very even-handed and fair.

In addition, I’m not a fisheries scientist. I’m a journalist and journalists are seldom experts in the field they are writing about. So when I began researching the book and communicating with government scientists — and later challenging some of them — I was greeted with a certain amount of resistance. I was also amazed by the bravery of some of them, one in particular who took great risk to speak to me very frankly despite how it could impact his career.

In the epilogue of the book I also discuss how the current Canadian government policy around the granting of interviews to the media made it very difficult for me to interview some key government scientists and how an Access to Information Request that I filed revealed that the Department of Fisheries and Oceans’ communication branch was not only tightly controlling the information but in some cases was suppressing and censoring it. On several occasions government scientists expressed how wary they were about making any statements that could get them into trouble. What is particularly worrying about this is that anything that inhibits the communication of science also inhibits the science.

**SEJournal:** What lessons did you learn from researching and writing this book? How did it put your street savvy and reporting expertise to work? How did you know whom to trust?

**Pannoza:** One thing I learned is don’t believe anything someone tells you until you have verified that it’s true. This can sometimes take a lot of time and effort, but don’t get lazy and give

up because it could mean you end up reporting misinformation. Many people have very strong opinions about this issue and not all opinions are based on fact.

When I started out writing the book I thought I'd find out the definitive answer as to why the cod hadn't recovered. I thought that if I read enough studies and interviewed enough people I'd be able to narrow it down to one thing — find the smoking gun. But what I found is that it's much too complex and we just don't know the answer. There are too many unknowns and then there are the unknown unknowns. This doesn't mean we shouldn't act to protect the marine ecosystem, but it means we need to proceed with extreme caution. So writing this book has made me much more humble and it also made me see that as a reporter it might be more important to report the uncertainties.

**SEJournal:** The book is meticulously researched, with what appears to be painstaking reporting packed into a relatively short narrative. But there also is a lot of color and descriptive writing. What advice do you have for writers trying to find the sweet spot between prose, passion and hard-nosed reporting so that they neither come away writing flowery rhetoric nor drab science?

**Pannozzo:** I'm certainly no expert in creative non-fiction, but from the start my intention was to write a book for a lay audience, so I didn't want it to come across as academic or dry. I really wanted it to come to life — for it to be real for the reader in such a way that it would make them care about the ocean and its creatures. I didn't do this in any formulaic way. But I figured that if there was something that I found fascinating or interesting, or something that made me care, then there was a pretty good chance a reader might feel the same way. So my advice to writers would be to find the parts of the story that fascinate you and use that to draw the reader in.

**SEJournal:** What has this book taught you about accountabil-

ity and about peeling away the layers of the official news we get from those in power, i.e., looking for the story behind the story?

**Pannozzo:** I have always felt the role of journalism in our society is to look beyond what we get from official sources, to be able to recognize propaganda on all sides of an issue and in the end report on behalf of the public interest. Working on this book has only strengthened that sentiment.

**SEJournal:** Has the cod fishery rebounded yet much? What about the grey seals? Do you see either on the path toward recovery? Or are both still in limbo over fisheries management issues and continuing uncertainty over climate change?

**Pannozzo:** Cod and grey seals have been on different trajectories over the last several decades. Adult cod still seem to be disappearing and the grey seal population has recovered from what were dangerously low levels. In the book, I reported that during the exponential growth phase of the grey seal population, roughly 70 percent of juveniles (that is, prior to age of sexual maturity 5, 6, 7 years old) were surviving. But now they are finding that only 33 percent of juveniles are surviving. They are attributing this to lack of food and that the juveniles are being outcompeted by the older animals, and this is probably why the exponential growth has stopped — and why the population is likely near its carrying capacity.

There has been no real improvement in fisheries management. There is still no recovery strategy for cod, there are no targets or timelines even though four stocks of cod have been identified as "endangered." This is because cod haven't been "listed" under the Species at Risk Act. Listing would automatically result in a recovery strategy. But the Department of Fisheries and Oceans won't agree to list cod because of how this might affect the execution of other economically viable fisheries.

In terms of where things currently stand regarding a cull, it's still in a kind of limbo. The most recent high-level recommendation

for a massive grey cull was "killed" when Stephen Harper's government discontinued the session of parliament in late August of 2013. So, to date no decisions have been made about a cull but it's my guess that this issue will be rearing its head again.

**SEJournal:** What unique challenges does Nova Scotia face, both on land and at sea, and what are some take-home points for environmental journalists from the United States and other parts of Canada?

**Pannozzo:** I live in a beautiful seaside community in Nova Scotia — a very small, mostly rural Canadian province that historically was "resource-based," where employment and wealth was created largely by cutting big trees and catching big fish — essentially extracting goods from nature. When the cod and other groundfish collapsed in the early 1990s, the fabric of these communities unraveled. Many fishermen who remained in the fishery adapted to the crisis by entering the growing lobster fishery and are now dependent on a species at the bottom of the marine food web. Given how higher temperatures and acidification associated with climate change are predicted to affect lobsters and other larvae-producing sea creatures, if anything were to go wrong in the lobster fishery it means there's no room to maneuver.

Also, I think the interests of the fishing industry in Nova Scotia and elsewhere on the East coast are diametrically opposed to the interests of the inshore fishermen and the communities in which they live. The mantra of growth is touted by the fishing industry and if it can't grow anymore by catching more fish, then the only way for it to increase productivity is by reducing employment — or replacing fishermen with technology — and this is how small communities wither and die.

Nova Scotia's past has largely been extractivist, and there are those here who would like that to continue by promoting fracking and offshore oil and gas exploration. But this has to change because we now know we can't have unlimited growth on a finite planet; we know that many corporations are profitable because they externalize costs. We also know that the public interest has taken a back seat to corporate/vested interests and this seems to be less and less palatable among the general public.

**SEJournal:** The late Farley Mowat described "The Devil & the Deep Blue Sea" as "one of the most significant books to appear in modern times." What did it mean to have him quoted on the book's cover? How did you know him? How did he inspire you? What did you learn from him and what do you miss about him?

**Pannozzo:** Sometime in August of 2013 I received a phone call from Farley Mowat, arguably Canada's most successful author — he's written more than 40 books, selling 18 million copies in 60 countries — and he's one of Canada's most renowned conservationists. I've never had the pleasure of meeting Farley, but an-



The 50,000 grey seals on Sable Island share the island with over 500 feral wild horses that were introduced there in the nineteenth century.

Photo courtesy Zoe Lucas

other wonderful author I know — Silver Donald Cameron — insisted he could bring Farley my manuscript. They were almost neighbors, both living the warmer part of the year in rural Cape Breton, an island attached to Nova Scotia by a causeway. I was honored by the gesture but had little expectation that it would amount to anything.

When Farley called, I nearly fell off my seat! He told me he couldn't put the book down, and that it was a book he wished he had written. "An absolutely stupendous job," he told me. "I really can't tell you how much I'm impressed by your work." His recognition meant the world to me.

Because Farley used a typewriter and sent mail the old-fashioned way, he said he would call me the next day with his "endorsement" and if I wasn't home he was going to leave it in a voice message. I still have that voice message, more than a year later. He also sent me a copy of it in the mail — a marked-up page with two typed draft versions of the review, both of them crossed out with large X's and then the cleaned up version at the bottom of the page. All the editing was done by hand.

Farley was a fearless and outspoken champion for the natural world. His books, namely "Never Cry Wolf," "Virunga," "A Whale for the Killing" and "Sea of Slaughter," were astonishing and very influential in shaping my worldview growing up. There is no one else quite like him.

*Tom Henry is SEJournal's book editor and a former SEJ board member. He has been associated with SEJ since 1994.*

## EJ Academy: DIY Guide...continued

All of this can be quite enjoyable, informative and, at times, humbling. I believe these "road trip" book experiences also can make for a better environmental writer and teacher of environmental journalism.

Peter Dykstra, SEJ member and publisher of DailyClimate.org, was kind enough to provide a review blurb for the jacket of my new book, commenting favorably on its use of science, history and related journalism. He said he "just wished there were 49 more books like it" for those who do not live in Missouri.

There could easily be a book for each state or region — and

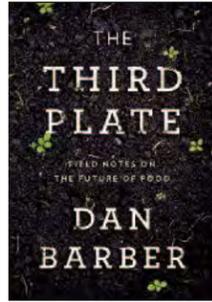
"Environmental Missouri" could provide a template for how to get the job done. Environmental journalism professors are in a unique position to author guides to topics that are close to home, in part by using their classrooms as focal points for generating material with student inquiry and invitations to local experts.

*Don Corrigan has served for more than 30 years as a professor of journalism at Webster University in St. Louis. He has written several books, including the new guide, "Environmental Missouri: Issues and Sustainability – What You Need to Know" (Reedy Press).*



Two grey seal pups, one a whitecoat, the other molting into an adult dark coat, on Sable Island.

Photo courtesy Zoe Lucas



**The Third Plate: Field Notes on the Future of Food**  
By Dan Barber  
Penguin Press, \$29.95  
Reviewed by JENNIFER WEEKS

Dan Barber is a widely lauded chef who has been a leading voice for the farm-to-table movement for more than a decade. In 2004, at the Stone Barns Center for Food and Agriculture in Pocantico, NY, Barber opened Blue Hill, a restaurant that showcases meat and produce raised on site and locally.

But Barber begins “The Third Plate” with a surprising assertion: Although the farm-to-table message has helped educate Americans about the negative impacts of our industrial food system, it has not changed that system in any meaningful way.

For decades, the typical American meal was what Barber calls “the first plate”: a hefty portion of meat or fish and a small side of vegetables or grains. Farm-to-table eating has created “the second plate,” which substitutes local, sustainably raised meat and produce for mass-produced versions.

It’s more flavorful. But in Barber’s view it “allows, even celebrates, a kind of cherry-picking of ingredients that are often ecologically demanding and expensive to grow.” We still make farmers grow what we want to eat, instead of eating things that can be grown without damaging the land.

Barber wants to shift Americans to a “third plate,” a different way of eating. The third plate focuses on what the land can provide, uses entire animals and fish instead of a few choice cuts, and does not deplete soil or remove nutrients from food.

An example might be a carrot dish with a sauce made from shredded beef, using one of the rough but flavorful cuts that many restaurants throw away.

To illustrate his idea of a third plate, Barber visits food producers who raise delicious food through methods that preserve soil and water, yielding tasty products and healthy ecosystems.

In the dehesa system of south and central Spain, for example, farmers graze livestock on pasturelands studded with oak trees. Pigs fatten on acorns from the oak trees in fall, yielding jamon iberico, one of the choicest types of ham in the world. The oaks also yield cork for wine bottles, and farmers make cheese from sheep’s milk and butcher cattle for beef. No single product is farmed for maximum yield in the style of large-scale U.S. agriculture, but the sys-

tem provides a range of products and healthy land.

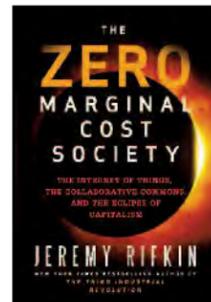
Barber is honest about the role that chefs play in promoting unsustainable ideas about food. “We’ve helped shape American cuisine, particularly when it comes to eating meat, by putting center cuts at center stage,” he writes.

In one scene, Barber visits a cutting-edge restaurant where the chef receives a freshly-plucked chicken from a farming cooperative in France, lauds the flavor, then laments, “What the hell am I going to do with an entire chicken?”

“The Third Plate” does not offer easy blueprints for overhauling America’s food system, although readers can pull out some first steps – for example, turning away from meat-centric meals and using more grains and legumes.

Barber’s field trips unfold at a leisurely pace (the book clocks in at 447 pages), but his stories are worth the time and effort – much like the foods that Barber says we should be eating.

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



**The Zero Marginal Cost Society: The Internet of Things, the Collaborative Commons, and the Eclipse of Capitalism**  
By Jeremy Rifkin  
Palgrave Macmillan, \$28  
Reviewed by CANDACE S. HUGHES

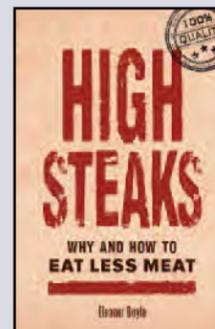
*New York Times* bestselling author Jeremy Rifkin – lecturer, consultant, and author of about 20 previous books – details how the web could alter our economy and save resources in “The Zero Marginal Cost Society: The Internet of Things, the Collaborative Commons, and the Eclipse of Capitalism.”

Throughout the book’s 356 pages, Rifkin shows how a new economic, web-based paradigm is leading to what he believes will be the gradual decline of capitalism as we know it today.

Capitalism, he writes, has had a good run with a substantial impact on human history. But he also makes a case for why he believes the success of capitalism may also be causing its own death.

Every aspect of our lives has been transformed into economic viability, as have our natural resources. He gives water as an example, saying how it can now be bottled and delivered to market for us to purchase.

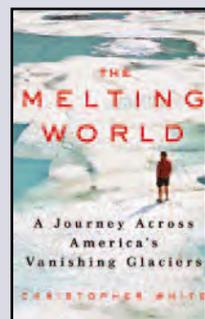
The danger of this, according to Rifkin, is that the market has



**“High Steaks: Why and How to Eat Less Meat”**  
by Eleanor Boyle

New Society Publishers  
[www.newsociety.com/Books/H/High-Steaks](http://www.newsociety.com/Books/H/High-Steaks)

Timely and compelling, “High Steaks” offers powerful environmental evidence for producing livestock more sustainably and compassionately, and for eating less and better meat.



**“The Melting World: A Journey Across America’s Vanishing Glaciers”**  
by Christopher White

St. Martin’s Press  
<http://bit.ly/MeltingWorld>

“An urgent wake-up call to nations across the globe that share responsibility for climate change and a heartbreaking elegy to a vital component of ecology.” — BOOKLIST

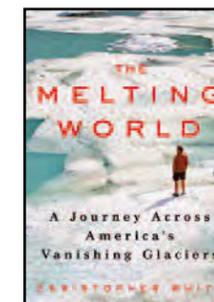
come to define us.

Rifkin notes that even Adam Smith, in his classic “The Wealth of Nations,” also predicted that the reaction to supply and demand could have its dangers.

But Rifkin writes that the new Internet technology shows greater productivity, and eventually more goods and services will be almost free and the marginal cost society will become a reality, bringing about an end to consumerism.

Then, as we work less and spend less time accumulating wealth in order to buy consumer products, we will have more time for nature, giving us more of a chance for transcendence and additional time to pursue personal improvement.

*Candace S. Hughes is an Arizona-based freelance writer and an SEJ member.*



**The Melting World: A Journey Across America’s Vanishing Glaciers**  
By Christopher White  
St. Martin’s Press, \$26.99  
Reviewed by TOM HENRY

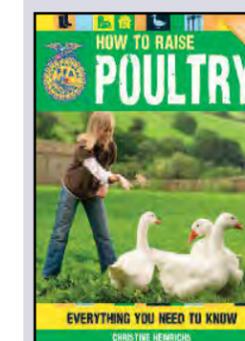
SEJ member Christopher White’s “The Melting World: A Journey Across America’s Vanishing Glaciers” feels kind of like a 2014 version of Elizabeth Kolbert’s classic “Field Notes from a Catastrophe,” written in 2006 – except that White’s book was produced years later and is focused on Montana-area mountain climbers. White puts readers there, with descriptive, eloquent writing that gets them as close as the writing can to feeling the ice blocks and hearing them pop.

White, who lives in New Mexico and is a frequent *National Geographic* contributor, spent five years in the field with Dan Fagre, a climate scientist and ecologist, starting in 2008.

Told through Fagre’s eyes, White offers a story that is part adventure tale and part sounding board for climate change issues impacting the globe.

He chooses to explain the all-encompassing story through a single ecosystem and a portrait of a compelling, determined researcher and his support team.

There are, of course, other parts of the world with stories to tell – some even more dramatic – and there are countless other researchers doing rugged and important field research. But White effectively penetrates the issue and brings it home through his skilled narrative and look at the future of the American Rockies – the center of which is Glacier National Park, which is down to 25 of what used to be 150 glaciers. And those may be gone a little more



**“How to Raise Poultry: Everything You Need to Know”**  
by Christine Heinrichs

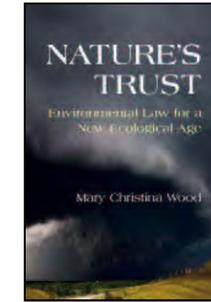
Voyageur Press  
<http://bit.ly/HowToRaisePoultry>

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.

than a decade from now, making Montana the first state to suffer the extinction of its mountain glaciers.

One reviewer compares White’s prose to that of John McPhee and Norman Maclean. To whatever degree that comparison is relevant, the point needs to be underscored that this book is a good example of telling stories that need to be told to help bring home the far-reaching, nebulous issue of climate change.

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



**Nature’s Trust: Environmental Law for a New Ecological Age**  
By Mary Christina Wood  
Cambridge University Press, \$45.00  
Reviewed by JAY LETTO

“Ain’t no use jiving. Ain’t no use joking. Everything is broken.”

If you’ve been covering environmental legal cases, or the lack of enforcement of countless environmental rules and regulations by the feds, states and local governments, then you already should know the Dylan song rings true for environmental law.

Author Mary Wood pulls no punches while going into great detail about the systemic dysfunctional enforcement of environmental laws within all branches and all levels of government. Wood blends an enduring sense of place with her broad knowledge of environmental law and its shortcomings to put forward nothing short of an entirely revamped environmental legal system that might just help the world prepare for a climate-changed future.

Wood’s sense of place comes from growing up alongside a small stream that empties into the Columbia River east of Vancouver, WA. SEJers toured her place in October 2001 to see salmon spawning.

In the Pacific Northwest, Native Americans still hold significant rights to traditional fishing sites and to the fish themselves, but even this is not a given, as sports fishers and commercial fishers cry foul.

For Wood it does count. Indeed, when most white settlers were grabbing all the land they could, Wood’s great-grandfather, C.E.S. Wood, befriended Chief Joseph of the Nez Perce, then resigned from the Army and worked to help the Nez Perce get some of their land back. His son Erskine, Wood’s grandfather, even went to live with Joseph, and later published a diary about the experience, “Days With Joseph.”

So Wood grew up steeped in stories of Native Americans and gained a deep respect for the “rooted land traditions of the Nez



**“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.

## Bookshelf

Perce.” She watched every year as salmon faithfully returned to her childhood stream.

She experienced sustainability in ecological systems as a child, and learned how indigenous people’s connections to the land sustain the resources — an approach she refers to as managing for “abundance” in the future, as opposed to managing for “scarcity,” which is how she generally describes the modern regimen of environmental laws.

Wood’s knowledge of environmental law comes from decades of practice, teaching and research in her native Pacific Northwest, where she has witnessed firsthand the tragic shortcomings of our environmental laws and the agencies charged with enforcing them.

She combines this knowledge with her deep understanding of Indian law — she has become a leading scholar on Indian treaty rights — to set in motion a whole new way of thinking about environmental law. That is, actual protection for the environment, and not, as Wood would say, sanctioned destruction for a small fee.

In this ambitious book, the author proposes a combination of public trust law and indigenous natural law. Wood would have a tripartite structure involving the tribes, feds and states jointly overseeing environmental and natural resource law.

The time is ripe to read this book, as next year’s SEJ conference will be in Norman, OK, where one of the main issues we’ll explore is how Native Americans are flexing their legal muscles on land-use laws and water rights across the country.

*Jay Letto is SEJ’s conference director. He lives in White Salmon, Washington.*

## SEJ News: Mentoring...continued

tant part of SEJ’s future. Journalism is changing every day, especially environmental journalism, and SEJ can help its members find new and innovative ways to adjust to these changes. The mentor program is one way.

I started radio journalism at 41 years old – because Karen told me I could. The thought would never have crossed my mind, but she saw potential in me and she nurtured it. And now I have produced more than 30 pieces of radio journalism for my local station. Am I on NPR yet? No. Am I going to be before year’s end? You betcha. With Karen’s training, I know I am ready.

*SEJ offers free one-on-one mentoring to any member seeking new skills, advice or critique. SEJ mentors are volunteers who have agreed to be contacted by a “mentee” at least four times during the course of a year. Although Karen and Lana initiated their own partnership, most matches begin with an introduction from volunteer program coordinators Jane Braxton Little and Dawn Stover. The mentor program is primarily designed for working professionals, but applications are also accepted from university-level students who have demonstrated a serious interest in environmental journalism. The program currently has about 100 mentors on its roster and more than 30 active partnerships. To apply as a mentor or mentee, fill out a short online application at <http://bit.ly/SEJ-Mentor>. Experienced freelancers and investigative reporters are in particularly high demand as mentors, and are encouraged to apply.*



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# ENVIRONMENTAL JOURNALISM 2015



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- ▼ OU Radar Innovations Lab
- ▼ Oklahoma Wind Power Initiative
- ▼ College of Atmospheric and Geographic Sciences
- ▼ OU School of Petroleum and Geological Engineering
- ▼ OU Center for Analysis and Prediction of Storms
- ▼ Oklahoma Climatological Survey



Biologists working in the waters near Papua New Guinea collect specimens of sea grass, which grows faster in the presence of carbon dioxide, the primary contributor to ocean acidification. The *Seattle Times* sent photographer Steve Ringman and reporter Craig Welch on an epic assignment that included a number of destinations along the Pacific Rim to better understand that threat to the world's oceans. The stories they reported culminated in the series "Sea Change: The Pacific's Perilous Turn," which was awarded the Kevin Carmody Award this year. For insights into some of the challenges the assignment presented for Ringman, including SCUBA diving certification and a harrowing journey aboard a crab fishing boat in the Bering Sea, see story on page 12.