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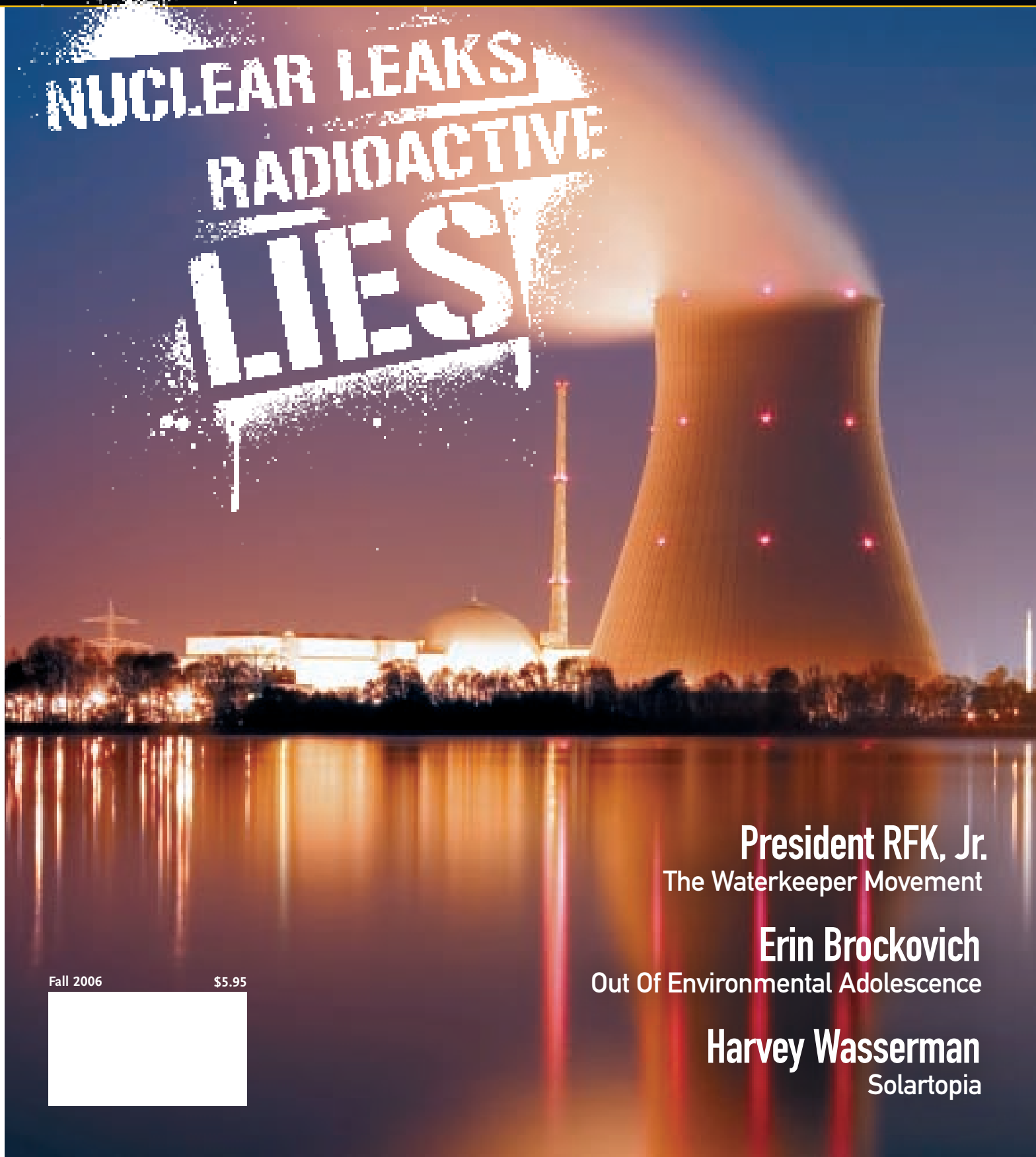

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The Waterkeeper Movement

Erin Brockovich
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Harvey Wasserman
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Fall 2006 $5.95

Volume 3, Number 2

Fall 2006

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Volume 3 Number 2, Fall 2006

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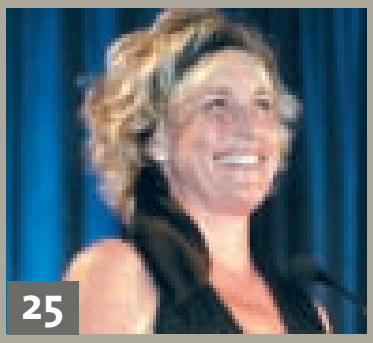
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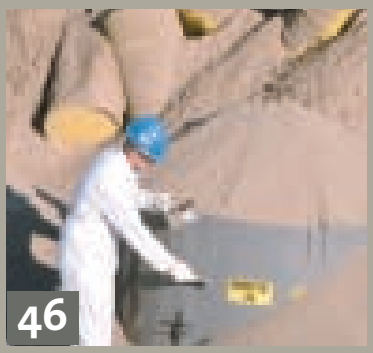
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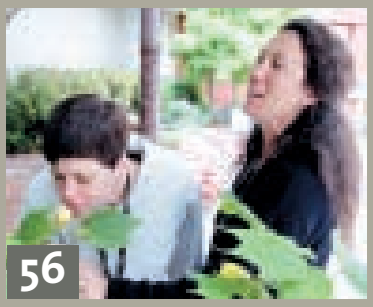
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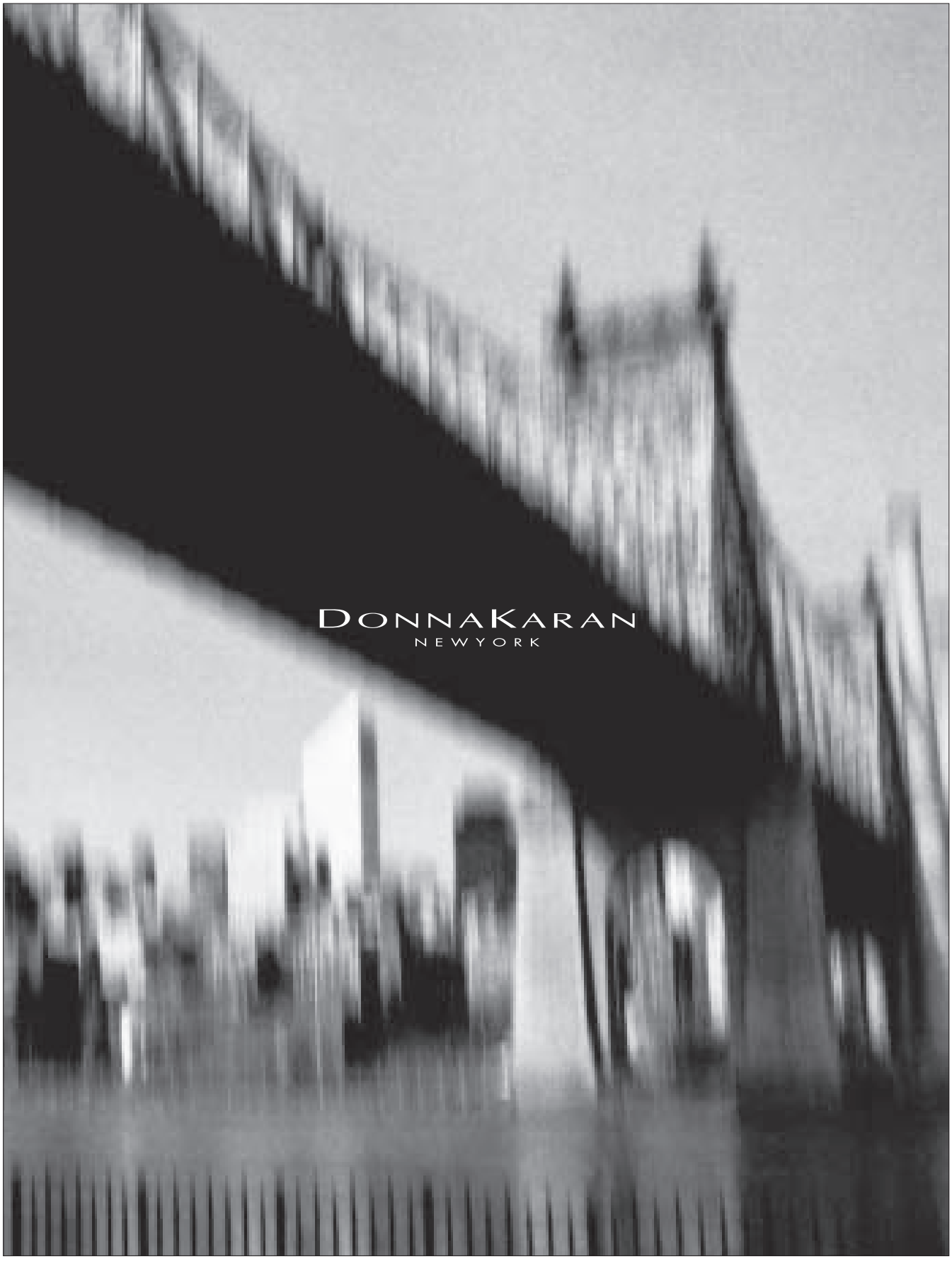
DONNAKARAN
NEWYORK

Letter from the President

Robert F. Kennedy, Jr.

The Waterkeeper Movement

From the creation of our movement in 1966, Waterkeepers have known that there's no more important human or civil right than the right to a clean environment.

Environmental injury is an offense against a basic human right and the injury always lands hardest on the backs of the poor. Four out of every five toxic waste dump sites in America are in a black neighborhood. The nation's largest toxic waste dump is in Emelle, Alabama where 90 percent of the residents are black. The highest concentrations of toxic waste dumps in America are on the South Side of Chicago. The most contaminated zip code in California is East Los Angeles, and so on and so on. Why? Because polluting industries go where they can most easily dominate the local political landscape.

Public trust assets—or commons—are those resources that are not readily reduced to private property and by their nature belong to the community. They include oceans, lakes, flowing rivers, aquifers, fisheries, wandering animals, parks and public spaces. All are held in trust by the government for the people. They help define us as a community, they underpin our economy and culture and are the source of economic vitality. The first sign of tyranny is government's complicity in privatizing the commons for private gain. Since the public trust is our community's life support system, its theft is arguably the gravest threat to human rights.

Pollution is theft. The polluter is stealing property from the public.

The fundamental responsibility of government is to protect the commons on behalf of all the people. The best measure of how a democracy functions is how it distributes the goods of the land. Does it keep the public trust assets, the commons, in the hands of all the people, rich and poor alike, or does it allow them to be privatized and concentrated in the hands of a few wealthy or influential individuals?

This struggle for control of the commons defines the Waterkeeper movement. We recognize that we're not protecting these waterways for nature, the fishes or the birds. We protect them because we understand that nature is the infrastructure of our communities. If we want to meet our obligation as a generation, a nation and a civilization to provide our children with the same opportunities for dignity and enrichment as our parents gave us, we must start by protecting our infrastructure: the air we breathe, the water we drink, the wildlife, the public lands that enrich us and connect us to our past and to our history, provide context to our communities and are the source ultimately of our values, our virtues and our character as a people.

For those of you who are not familiar with the Waterkeeper movement, let me tell you a little bit of history. Hudson Riverkeeper was established in 1966 by blue-collar commercial and recreational fisherman who mobilized to reclaim the Hudson River from polluters. The Hudson is home to a 350 year old commercial fishery, one of the oldest in North America. Many of our members come from families that have been fishing the Hudson continuously since Dutch colonial times. They use the same traditional methods taught by Algon-

quin Indians to the original Dutch settlers of New Amsterdam and then passed down through the generations.

One of the enclaves of the Hudson's commercial fishing is Crotonville, New York, a little village 30 miles north of New York City on the east bank of the river. Crotonville's residents were not prototypical affluent environmentalists; they were factory workers, carpenters, laborers and electricians. Many made their living, or at least some part of it, fishing or crabbing the Hudson. Most had little expectation that they would ever see Yellowstone, or Yosemite or the Everglades. For them, the environment was their backyard—the bathing beaches, swimming and fishing holes of the Hudson River. Richie Garrett, the first president of Riverkeeper, used to say about the Hudson, "It's our Riviera, it's our Monte Carlo." Richie Garrett was a gravedigger from Ossining, NY. He often told his followers, "I'll be the last to let you down."

In 1966, Penn Central railroad began vomiting oil from a four-and-a-half foot pipe in a Croton-Harmon rail yard. The oil blackened the beaches and made the shad taste of diesel, leaving them unsaleable at New York City's fish market. In response, the people of Crotonville gathered in the only public building in the town, the Parker-Bale American Legion Hall. This was a very patriotic community; Crotonville had the highest mortality rate of any community in America in World War II. Like Richie Garrett, a Korean War vet, almost all the original founders, board members and officers of Hudson Riverkeeper were ex-marines. These were not radicals, or militants; their patriotism was rooted in the bedrock of our country. But that night they started talking about violence. They saw something that they thought they owned—the abundance of the Hudson's fisheries that their parents had exploited for generations and the purity of its waters—being robbed from them by corporate entities over which they had no control. They had been to the government agencies that are supposed to protect Americans from pollution; the Corps of Engineers, the state Conservation Department and the Coast Guard. And they were given the bum's rush. Richie Garrett and a pilot named Art Glowka paid some 20 visits to the Army Corps of Engineers Colonel in Manhattan begging him to do his job and shut down that Penn Central pipe. Finally, the Colonel told them in exasperation, "these [the Penn Central board of directors] are important people, we can't treat them this way." In other words, 'we can't force them to obey the law.'

By March 18, 1966 virtually everybody in Crotonville had come to the conclusion that government was in cahoots with the polluters. The only way they were going to reclaim the river was to confront the polluters directly. Somebody suggested that they put a match to the oil slick coming out of the Penn Central pipe. Somebody said they should jam a mattress up the pipe and flood the rail yard with its own waste. Someone else suggested floating a raft of dynamite into the intake of the Indian Point Power Plant, which was sucking in and killing close to a million fish each day and taking food off their family's tables.

Then another marine took the microphone. Bob Boyle was the outdoor editor of Sports Illustrated magazine. He was a world famous angler and the author of several books on recreational fishing. Two years earlier he had written an article for Sports Illustrated about angling in the Hudson. His research had brought him across a federal Navigation Statue called the Rivers and Harbors Act, a law from 1888 which made it illegal to pollute any waterway in the United States and provided for high penalties. Surprisingly, the law included a bounty provision allowing anybody who turned in a polluter to keep half the fine. Boyle had sent a copy of the law over to the Time Inc. libel lawyers asking, "Is this still a good law?" They sent him back a memo saying, "It's never been enforced, but it's still on the books." That evening, before 300 men and women angered to the point of plotting violence, he held up a copy of that memo and said, "We shouldn't be talking about breaking the law, we should be talking about enforcing it." They resolved that evening that they were going to organize themselves as the Hudson River Fisherman's Association—which later became Riverkeeper—and that they were going to go out and track down and prosecute every polluter on the river.

Eighteen months later they collected the first bounty in United States history under the 19th century statute. They shut down the Penn Central Pipe. They used the money that was left over to go after Ciba-Geigy, Standard Brands and American Cyanide, many of the biggest corporations in America. One after the other they shut those polluters down. In 1973, they collected the highest penalty in United States history against a corporate polluter; $200,000 from Anaconda Wire and Cable for dumping toxics into the river in Hastings, N.Y. They used the bounty money to build a boat and hire a commercial fisherman, John Cronin, as the first full-time paid Riverkeeper. In 1984 John Cronin hired me using bounty money to be Riverkeeper's prosecuting attorney.

Since then we've brought 400 successful lawsuits against environmental polluters on the Hudson and we've forced polluters to spend almost $4 billon on remediation. The Hudson today is an international model for ecosystem protection. This river, a national joke in 1966 is today the richest water body in the North Atlantic. It produces more pounds of fish per acre, more biomass per gallon, than any other waterway in the Atlantic Ocean north of the equator. It's the only river system on both sides of the Atlantic that still has strong spawning stocks of all its historical species of migratory fish. The miraculous resurrection of the Hudson has inspired the creation of over 150 Waterkeepers – Riverkeepers, Baykeepers, Soundkeepers and others – all across the country and around the world.

Waterkeeper Alliance issues licenses to use the Waterkeeper name after determining that a new program meets our strict standards. Each Waterkeeper has a patrol boat, they have a full-time paid Waterkeeper and they sue polluters. They make sure nobody steals our water from our communities and that those waterways stay in the hands of the public, where they belong. **W**

Waterkeeper Magazine tells the stories of our 156 local Waterkeepers on six continents fighting for clean water and strong communities.

ON THE COVER

Photo: Björn Kindler/ iStockphoto.com

Globally, the paper industry is the single largest industrial consumer of water and the third greatest emitter of greenhouse gases.

Getting the Paper Right!

Waterkeeper magazine is now printed on 100% post-consumer recycled paper generated with wind power. We hope that other publications will join us in committing to protect our environment and building the market for environmentally sustainable products. The environmental savings from this switch are enormous:

- **134.4** trees preserved for the future
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- **6,317** lbs solid waste not generated
- **12,438** lbs net greenhouse gases prevented
- **95,200,000** BTUs energy not consumed

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- **3** barrels crude oil unused

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not driving **7,000** miles
OR
planting **437** trees

Waterkeeper is printed on FSC-certified Mohawk Options 100% post-consumer recycled paper which is manufactured with Green-e certified wind electricity. This paper is certified by Green Seal and by Smartwood for FSC standards which promote environmentally appropriate, socially beneficial and economically viable management of the world's forests.

WATERKEEPER®
MAGAZINE

WATERKEEPER® ALLIANCE

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www.WATERKEEPER.org
The official magazine of Waterkeeper Alliance

MISSION: Waterkeeper Alliance connects and supports local Waterkeeper programs to provide a voice for waterways and communities worldwide.

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Switch Studio Art Direction
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Giles Ashford Contributing Photographer

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Heather Jacobs,
Pamlico-Tar
Riverkeeper, GA

RICK DOVE

Who is Waterkeeper Alliance?

Waterkeeper Alliance is the guardian of 156 local Waterkeeper programs worldwide – Riverkeeper, Baykeeper, Coastkeeper, Soundkeeper and other watershed advocates who patrol and protect their waterway, standing up to polluters and guaranteeing everyone's right to clean water.

The Alliance connects and supports our programs with legal, scientific and policy expertise and fights for clean water at the national and international level. Waterkeeper Alliance is the most effective protector of clean water because we truly act locally and organize globally.

WATERKEEPER® ALLIANCE

Join Waterkeeper Alliance—Get WATERKEEPER

Join Waterkeeper Alliance and get **WATERKEEPER** for one year. Everyone has the right to clean water. It is the action of supporting members like you that ensures our future and our fight for clean water and strong communities.

Go to **www.WATERKEEPER.org** and click on Donate Now to join Waterkeeper Alliance as a supporting member.

You can also join Waterkeeper Alliance by mail. Send your check, payable to Waterkeeper Alliance, to:

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Waterkeeper Alliance is a 501(c)(3) non-profit organization. Your $50 contribution or more entitles you to receive a one year subscription to **WATERKEEPER** magazine, which has an annual subscription value of $12. The balance of your contribution is tax deductible to the extent allowed by law.

Holy Sewage:

Summer 2006 Issue

City of Richmond to Pay $80,000 for Sewage Spills

After months of negotiations, the City of Richmond, CA, and related agencies have agreed to provide $80,000 to compensate for pollution violations at their sewage treatment plants and to fund environmental improvements throughout the city. Last September, San Francisco Baykeeper and West County Toxics Coalition filed suit against Richmond for massive raw sewage spills from the city's collection systems.

Casco Bay No-Discharge Area

This July, the Casco Bay was designated as a "federal no-discharge area" by U.S. EPA, forcing all bay-going vessels to dispose of treated and untreated sewage into one of 20 marina pump-out facilities in the bay. Lauded by Governor John Baldacci, Casco Baykeeper played a pivotal role in securing the protection for more than 229 square miles of marine habitat. For the past ten years Casco Baykeeper and Friends of Casco Bay have been involved in a tireless effort to build pump-out infrastructure in the bay to qualify for the designation.

The new status as a "no-discharge area" complements two state laws that offer further protections for the bay: one, prohibiting cruise ships from discharging grey water and the other, prohibiting the discharging of oily bilge water. "When it comes to vessel discharges," says Casco Baykeeper Joe Payne, "with these new measures, Casco Bay will now be the most protected bay in the United States!"

$82 Million For San Diego Sewage Infrastructure

In June, the San Diego City Council approved a second interim settlement that obligates the city to invest $82 million to further upgrade San Diego's sewage collection system and enhance inspection and maintenance programs. After filing suit in 2001, San Diego Coastkeeper, Surfrider Foundation and U.S. EPA reached an interim settlement with the city in 2005 that required a $187 million investment for replacing broken sewer lines and implementing a pipe cleaning program, resulting in an 84 percent decrease in spills over the past five years. This second interim settlement obligates the city to continue its successful sewage spill reduction program. Once the city is on more solid financial footing, Coastkeeper expects to enter into a long-term agreement that will require San Diego to invest more than $1 billion in its sewer system through 2013.

"The city has made tremendous strides in investing in its sewage infrastructure and reducing the chronic spills that had plagued the region for years before this suit was filed," said San Diego Coastkeeper's Executive Director Bruce Reznik. "As a result of this settlement, our world-famous beaches and bays will be safer for all San Diegans."

Limerick Contest

Each issue we'll donate $100 to the Waterkeeper program of the winner's choice.
Send your Waterkeeper-themed limerick to editor@waterkeeper.org.

WINNING LIMERICK

By Michael Helfrich, Lower Susquehanna Riverkeeper

In the dark days of blind corporate greed,
There arose a most definite need.
"An army we must form,
our world to transform!",
caring people to replant the seed.

There then came a voice from the river,
that sent all polluters a shiver.
"To stop you we do dare,
clean our water and air,
or fear the next blow we deliver."

They faced off, and fishermen stood tall.
Their only ammunition, the law.
Defeating the giant,
they continued defiant,
"If you pollute, we'll come for you all!"

With hard work, their heroic tales grew.
Goliaths and windmills they slew.
Just like David and Don,
Their legends traveled on,
and the people saw that they were true.

Now over one hundred fifty strong,
the Waterkeepers righting the wrongs.
There is a solution
to not leave pollution
for our children to whom Earth belongs.

Letters to the Editor

Is there anything you'd like to say? Submit your letter to the editor via email **editor@waterkeeper.org** or by mail to **Waterkeeper Magazine, 50 S. Buckhout St., Ste 302, Irvington, NY 10533.**

Ripples

COURT SAYS

EPA Must Set Standards Controlling Strip Mall and Subdivision Stormwater Pollution

"Today's decision is a tremendous victory for the American public."

In June, a federal court ruled that U.S. EPA must set standards to control stormwater pollution from strip malls, subdivisions and other new developments. The ruling resulted from a September 2004 lawsuit filed by Waterkeeper Alliance and the Natural Resources Defense Council charging that EPA's unwillingness to control construction site pollution would lead to more beach closings, waterborne disease, flooding, fish kills and contaminated drinking water supplies. The federal court ruled that the agency's inaction violated the Clean Water Act. The states of New York and Connecticut joined the groups as plaintiffs in the case.

Polluted runoff from paved surfaces, such as parking lots, highways and rooftops, is the fastest growing source of water pollution across the country, according to a 2002 report by the Pew Oceans Commission. EPA's failure to control urban stormwater pollution, NRDC and the Waterkeeper Alliance said, is despoiling the environment and threatening public health, particularly in coastal areas, where stormwater already is the largest source of water pollution and population is growing rapidly. "Today's decision is a tremendous victory for the American public," said Waterkeeper Alliance Staff Attorney, Jeffrey Odefey. "The court recognized that EPA has shirked its responsibility to control stormwater. Solutions to prevent polluted runoff are available, affordable and necessary to keep our nation's waters clean."

WATERKEEPERS Australia
Leads Pol Tour Of Proposed CAFO Site

Waterkeepers Australia Director Greg Hunt and the Upper Lang Lang Creekkeeper Mark Dunemann took a busload of politicians, including Elaine Carbines, Victoria's Parliamentary Secretary for the Environment, and members of the Natural Resources and Environment Backbench Committee to a proposed CAFO site near the Lang Lang Creek. The proposed factory farm will house 80,000 chickens and produce several tons of waste each year. The community and a regional council are virtually unanimous in opposition to the project.

The tour also included local councillors, including the mayor, in an inspection of the site and a discussion of the best way to resolve the matter. "You have to take people out to the waterway and walk it, feel it, smell it and breathe it – then they'll know what you are talking about," says Greg Hunt.

What ecosystem is your water from?

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Our water begins as rain, purified by equatorial trade winds after traveling thousands of miles across the Pacific Ocean. Once it arrives in Fiji, it falls and filters through volcanic rock over hundreds of years. During this process, FIJI Water collects life-essential minerals, like silica, and finally gathers in a natural artesian aquifer, where it is preserved and protected from external elements.

Bottled at the source, natural artesian pressure forces the water through a hermetically sealed delivery system free of human contact.

So if you ever wonder what water from one of the world's last virgin ecosystems tastes like, just remember this: we saved you a trip to Fiji.

The nature of water.

NATURAL ARTESIAN WATER

Jeff Salt, Great Salt Lakekeeper

GREAT SALT LAKEKEEPER

Taking Back the Neighborhood

In July, a Utah court ruled in favor of Great Salt Lakekeeper and Citizens For Responsible Water Resource Planning blocking construction of a wastewater treatment plant along the Jordan River in Salt Lake County, Utah. The court agreed that the sewer district failed to adequately mitigate the impacts from the proposed facility along the Jordan River. The case has far-reaching implications for land-use planning in cities and towns throughout the state of Utah – improving the stature of communities in influencing local land use decisions.

CORRECTION AND CONGRATULATIONS

Julie O'Neill, Buffalo Niagara Riverkeeper, was misidentified on page 56 in the summer issue of Waterkeeper. Here is the real Julie, pictured with Patrick O'Neill and their children Keegan, Caitlyn and James, born May 9, 2006.

Widespread Fish Kills Spark Call for Dam Removal

This summer the Klamath Riverkeeper joined fishermen, government representatives and Klamath Tribes to demand the removal of dams on the Klamath River responsible for a wave of fish kills that have damaged one of the nation's wellsprings for Pacific salmon.

In 2002, a fish kill of over 68,000 adult Chinook salmon in the Klamath lead to the largest salmon fishery closures ever in the West. Almost all commercial salmon fishing, spanning most of California and Oregon, was shut down. The closures led to the declaration of a two-state emergency, devastating the fishing industry and the food source of California's three largest Tribes.

KLAMATH RIVERKEEPER

Fishing boats demand action to save Klamath salmon.

The owner of the dams, PacifiCorp, recently announced it would consider dam removal. This latest announcement suggests PacifiCorp's new owner, Warren Buffet, may join Klamath Riverkeeper and others in efforts to bring the Klamath salmon home.

Ag Accountability

In the Central Valley

In 2003, California's Central Valley Regional Water Quality Board introduced an agricultural waiver program that allowed farmers to join coalitions to jointly monitor and cleanup pollution. Individual farmers remained anonymous and unaccountable within the coalitions and pollution of Central Valley waterways increased.

2006 marked the date for the waiver's renewal. Deltakeeper and a coalition of 135 public interest groups joined together to put a stop to the program. On June 22, Deltakeeper, a chapter of Baykeeper in San Francisco, held a bilingual rally to express public outcry over the waivers. After waves of supporters – including the Indian Riverkeeper, FL, and Black Warrior Riverkeeper, AL – attended a hearing to testify, the board tightened requirements, forcing farmers to make public coalition membership lists and other vital information. This information will allow the public to hold farmers accountable for pollution from their fields.

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Ton of Trash Paddle Out

In May, Pamlico-Tar Riverkeeper and volunteers paddled out in kayaks, canoes and johnboats to heave 600 pounds of trash from the Pamlico-Tar. With the help of Keep America Beautiful and the Sierra Club Medoc group, volunteers removed 1,600 pounds of trash from the river near Rocky Mount, North Carolina. The next week, in Greenville and Washington, Pamlico-Tar Riverkeeper and 62 volunteers pulled out over a ton of garbage, including the front of a television, several chairs, a full-can of beer and a tractor-trailer tire. Pamlico-Tar Riverkeeper was provided with free-fee disposal for the cleanups through a partnership with Pitt County Landfill and Washington Public Works Department.

Dredge Spoil Dumping Banned in Buzzards Bay

Buzzards Baykeeper hailed the passage of House Bill H4884, signed into law this summer by Massachusetts Governor Romney, permanently banning the dumping of dredge spoils in the bay. In 2004, Buzzards Bay was designated as an area of special environmental and economic interest. The state, however, proposed opening the bay for sludge dumping. The dumping of dredge spoils smothers productive bottom habitat for aquatic plant and animal species, including commercial species such as lobsters, bay scallops and scup. "The bill effectively takes the threat of dredge dumping in the bay permanently off the table," says Mark Rasmussen, Buzzards Baykeeper.

WATERKEEPER REPORTS:

NY/NJ Baykeeper's 'Brownfields to Greenfields' Report

The Hudson River Estuary has an enormous opportunity to convert brownfields to greenfields, says a new report published by New York/New Jersey Baykeeper. The 'Brownfields to Greenfields' report observes that states across the nation are proving that economic and environmental goals can go hand-in-hand in redevelopment plans. Baykeeper states that greenfields are crucial to achieving a balance between development and open space and recommends that states should offer incentives to ensure that brownfields have a greenfields component. For more information, visit http://www.nynjbaykeeper.org/news/102

Ottawa Riverkeeper's 'State of the River' Report

Ottawa Riverkeeper released their State of the River Report, highlighting the importance of the incredible Ottawa River ecosystem and identifying the major threats to the river. Report findings indicate that the ecosystem is being degraded by municipal sewage, pulp and paper mill effluent, Chalk River Nuclear Laboratories, floodplain and shoreline development, urban stormwater and much more. The report then completes the picture by examining the human dimension – the social and political context within which watershed management decisions are made and how individuals and stewardship groups can make a difference. The report is available online at www.ottawariverkeeper.ca

Cook Inletkeeper's 'Dishonorable Discharges: *How to Shift Cook Inlet's Offshore Oil & Gas Operations to Zero Discharge*'

The ongoing discharge of toxic oil and gas wastes into Cook Inlet, AK, fisheries no longer makes sense on economic, technical or scientific grounds says a just-released study by Cook Inletkeeper based on three years of research. The report focuses on the discharge of contaminated wastewater from oil and gas production. The report's findings stand in sharp contrast with U.S. EPA's recently issued draft permit, which allows a threefold increase over the current level of oil and grease discharges.

To download the report, see www.inletkeeper.org/zerodischarge.htm

Pictured, from left to right. Top: Mark Martin (Chief Prosecuting Attorney for Black Warrior Riverkeeper), Art Crenshaw (filmmaker - Black Warrior Riverkeeper documentary), Charles Scribner III (Publisher of *The Riverkeepers* by RFK, Jr. & John Cronin), newlyweds Charles & Elizabeth Scribner, Ritchie Scribner (major supporter of Hudson Riverkeeper and Black Warrior Riverkeeper), Jarrett Grover (major supporter of Mobile Baykeeper); *bottom*: Caitlin Ward (volunteer for Black Warrior Riverkeeper), Jennifer Block, Erick Bozzi (Waterkeeper Alliance Board of Directors), David Whiteside (Founder of Black Warrior Riverkeeper), Kathryn Yates (volunteer for Black Warrior Riverkeeper), Casi Callaway (Mobile Baykeeper), Nelson Brooke (Black Warrior Riverkeeper), Elizabeth Salter (volunteer for Black Warrior Riverkeeper).

CONGRATULATIONS

to Charles and Elizabeth Scribner (Development Director and Volunteer for Black Warrior Riverkeeper, AL) on their July 22 nuptials.

PAUL A. SOUDERS/CORBIS

Court Rules for Baykeeper on Ballast Water:

EPA to Take Action

By Deb Self, Associate Director, Baykeeper

Years ago you would never see an Asian clam and the Chinese mitten crab crawling along the coast of San Francisco Bay. But ever since the government began allowing international vessels to freely dump foreign waters in U.S. ports, these two species have come to dominate the seascape, disrupting the local ecosystem and costing the nation billions of dollars annually. This September, thanks to a lawsuit brought by Baykeeper and partners, a federal court ruled that U.S. EPA must create new regulations to control ballast water for incoming ships within the next two years.

Upon leaving a port, ships are pumped with ballast water to help stabilize the vessel through the long journey. For thirty years, incoming ships would dump this water in U.S. ports, without restrictions, because of inadequate regulations EPA wrote decades ago. EPA continued to get away with the lax policy for decades because no one challenged them – until Baykeeper stepped in. Last year, a federal court officially ruled that the regulations on ballast water were illegal. Now, to remedy the situation, the court ordered EPA to create new regulations by September 2008. The new regulations will ensure that shipping companies comply with the Clean Water Act and prevent the discharge of invasive species in ballast water.

Over 21 billion gallons of ballast water from international ports are discharged into U.S. waters each year. The San Francisco Bay and Delta Estuary is the most invaded estuary in North America and possibly the world. On average a new species establishes itself in the bay every 14 weeks. "This is one of the worst types of pollution because the pollutants multiply and their impacts grow. It deserves every bit as much oversight and regulation as other dangerous contaminants," said Leo P. O'Brien, Executive Director of Baykeeper.

Deborah Sivas, Director of the Stanford Law School Environmental Law Clinic and the attorney representing the plaintiffs noted that, "If EPA had spent the last seven years developing a permitting program for ballast water instead of fighting this court battle, not only would our water be safer but our economy would be better protected. Invasive species come at a tremendous cost to both the environment and taxpayers."

The absence of effective federal action, combined with the high cost of invasive species to the environment, industries and drinking water sources, has led numerous states to pass their own laws. Michigan will require shippers to have permits by early next year. In California, a bill is pending that would adopt the most strict limitations on the discharge of ballast-borne invasive species in the world. Six Great Lakes states – New York, Michigan, Pennsylvania, Illinois, Minnesota, and Wisconsin – joined the environmental groups' lawsuit to persuade the court to require a federal permitting program.

Baykeeper's partners in the lawsuit were The Ocean Conservancy and Oregon-based Northwest Environmental Advocates. The Environmental Law Clinic at Stanford Law School and Pacific Environmental Advocacy Center (PEAC) represented the three organizations. W

Aquatic invasive species cost the U.S. $7.8 billion dollars per year – a number that even EPA reports is a "serious underestimate of infinity."

Shenandoah Riverkeeper Meets with Governor,
CONFRONTS POLLUTER


SHENANDOAH RIVERKEEPER

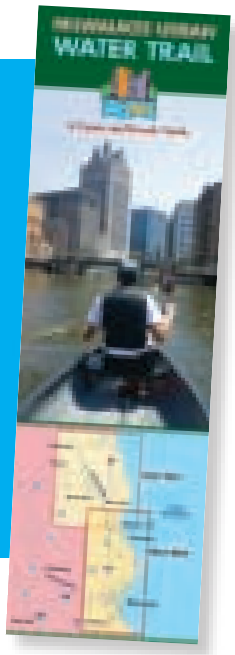
Jeff Kelble (red shirt) speaking with Virginia Governor Kaine at a meeting on the health of the Shenandoah River.

On July 10, Shenandoah Riverkeeper Jeff Kelble met with Virginia Governor Timothy M. Kaine and other senior state officials to discuss the massive fish kills in the Shenandoah. The meeting came after Governor Kaine's attempt to fund $200,000 to the Shenandoah Fishkill Task Force was shot down in the state legislature. The Governor called the meeting, held at the Shenandoah Riverkeeper's office/bed-and-breakfast, to learn more about the extent of problem, plan for the future and express his support for those impacted.

For the past three spring seasons, extensive fish kills have covered the entire Shenandoah, killing an average of 80 percent of the river's fish. While the cause has not been pinpointed, speculations range from high levels of ammonia in the water from industrial agriculture, the presence of toxic algal communities or even decreased immunities to otherwise innocuous pathogens. Businesses such as fishing shops, fly shops, canoe outfitters and the real estate market along the river are among the worst hit. Governor Kaine acknowledged that the issue was a state issue and is looking to increase state involvement.

In August, Shenandoah Riverkeeper, along with Potomac Riverkeeper and Waterkeeper Alliance, put a wastewater treatment plant (one of the largest polluters in the watershed) on notice that they face a lawsuit if the plant does not take immediate action to reduce nutrient pollution.

Milwaukee Riverkeeper Trail Added to National System



The National Parks Service designated the Milwaukee Urban Water Trail, a project spearheaded by the Milwaukee Riverkeeper and partners, as a National Recreational Trail. The trail consists of a paddling map that illustrates routes, hazards and points of interest, as well as signage that correlates with the map. U.S. Secretary of the Interior, Dirk Kempthorne, highlighted the Milwaukee Riverkeeper in a speech last June, noting their new addition to the 10,000 mile-long National Trails System.

BP to Implement Spill Prevention in Dock Expansion Suit Settlement

After six years, RE Sources (home of North Sound Baykeeper), Ocean Advocates and other groups reached a settlement with BP West Coast Products and the Army Corps of Engineers over the Corps' permitting the expansion of BP's Cherry Point refinery dock in Washington State.

In 2005, a federal appeals court found that the Corps' violated federal law when it issued a permit for the dock expansion. The court ordered BP to prepare an Environmental Impact Statement (EIS) to reevaluate the project and ordered a lower court to hold a hearing on whether or to not seek injunction to prohibit BP's use of the dock until completion of the EIS.

Under the settlement, the plaintiffs agreed not to seek an injunction temporarily barring BP's use of the dock. In return, BP has agreed to implement pre-booming (surrounding all tankers with floating barriers that help contain spills before offloading oil) and a spill response program for all shipments of crude oil handled at the dock; to fund a comprehensive oil spill risk assessment; and to immediately implement vessel routing and anchorage requirements for problem areas in the vessel traffic system. "These are good wins," said Wendy Steffensen, North Sound Baykeeper. "I will independently monitor the booming provisions of the settlement and participate fully in the EIS and other processes."

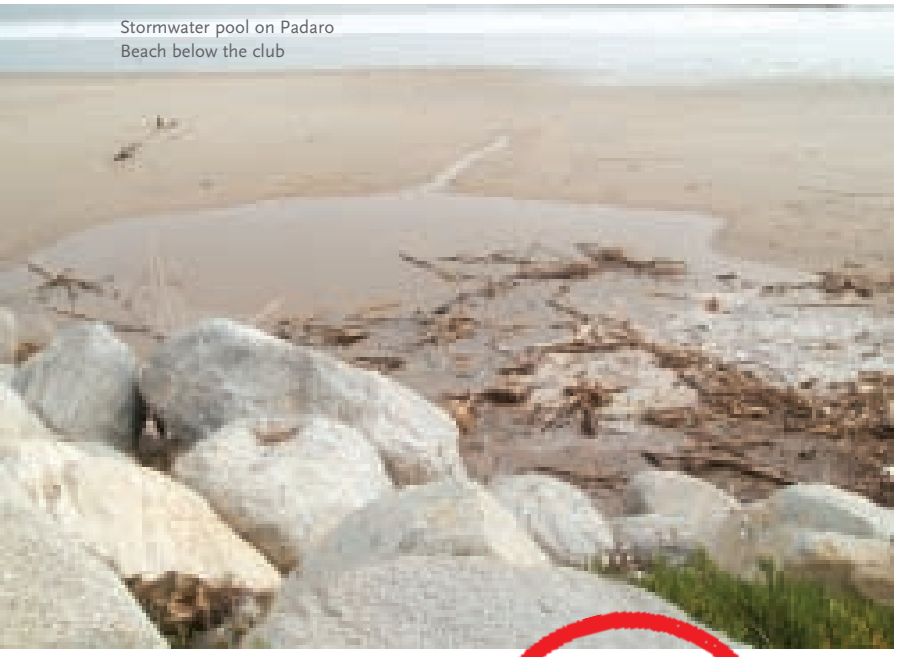
Long-Awaited Mothball Plant Cleanup to Begin

The Standard Chlorine Site in Kearny, NJ.

For decades, an old chemical plant has leaked toxins into the Hackensack River in New Jersey. Now, thanks to NY/NJ Baykeeper and Hackensack Riverkeeper, the companies responsible will clean up the toxic mess.

Seventeen years ago, a court ordered Tierra Solutions, Beazer East and Standard Chlorine Chemical, the companies that operated the Standard Chlorine Site, to remediate the facility. But the site remained in its original, polluted condition. Last year the two Waterkeepers threatened to sue the companies. Now, after long negotiations, the Waterkeepers have agreed to hold off from filing the lawsuit. In return, the Waterkeepers will assume an oversight role with state environmental officials on how and when the site will be cleaned.

The Standard Chlorine Site has operated on the banks of the Hackensack for almost 100 years producing mothballs, chlorine and other chemicals. Throughout this time, the Hackensack Riverkeeper has suffered high levels of pollution, resulting in fish consumption warnings.



Stormwater pool on Padaro Beach below the club

Santa Barbara Channelkeeper

Settles Lawsuit Against Polo Club

By Kira Schmidt, Santa Barbara Channelkeeper

Padaro Beach, just south of Santa Barbara in the small beachside town of Carpinteria, CA, has long been plagued by pollution from the Santa Barbara Polo Club. A lawsuit filed by Santa Barbara Channelkeeper has put an end to that.

For several years, local residents and beachgoers have been vexed by the periodic formation of a large foamy pond of polluted water at the outfall of a stormdrain pipe on Padaro Beach. At high tide, this polluted water would often get washed out to sea.

Local residents first brought the problem to our attention in 2003 and Channelkeeper undertook an investigation of the situation. We found that the ponded water contained extremely high levels of bacteria, posing a threat to public health and the environment. We also learned that county health public officials had been aware of the problem for several years and had even conducted their own sampling, with similar results. They had traced the source of the discharge to the nearby Santa Barbara Polo Club. The county inspected the Polo Club in August 2004 and found that wastewater from the stable and horse-washing areas was being illegally discharged into stormdrains running to the beach. But the county did little to remedy the problem.

Channelkeeper filed a lawsuit against the Polo Club in February 2005 for discharging pollutants to waters of the United States without a permit in violation of the federal Clean Water Act and for improperly handling and disposing of manure and other stable wastes. To their credit, the Polo Club's management responded almost immediately, claiming they wanted to be a good neighbor and clean up their facility. They were much slower, however, when it came to investing in a solution to the problem. But Channelkeeper stuck to their guns and, after more than a year of difficult negotiations, finally reached a settlement agreement with the Polo Club that requires them to clean up their operations and stop polluting Padaro Beach.

The Club will now seal the large stormdrain pipe that conveyed Polo Club water to the beach during the summer. Since the peak polo season – when far more horses are on site – occurs during the summer, this measure will provide much-needed protection for beachgoers. Another stormdrain at the bottom of the stabling area will also be sealed in the summer and all surface water captured and reused for onsite dust suppression and irrigation. All water used to wash or rinse horses will be captured and diverted to the sanitary sewer system for treatment.

The Polo Club will also take a host of measures during the rainy season to prevent stormwater running off their facility from becoming contaminated with horse waste. An outside consultant will monitor water quality to assess the effectiveness of these measures in eliminating pollution from the club. The club must prove that samples of runoff from their facility contain lower levels of indicator bacteria than water running onto their facility for three years in a row. If they are unable to demonstrate the effectiveness of their improvements, then the legal agreement stipulates that they take even more drastic measures to stop the polluted runoff from reaching stormdrains.

Channelkeeper's victory over the Santa Barbara Polo Club is an excellent example of the Waterkeeper model of community responsiveness and watershed protection at work. It also provides a strong affirmation of the importance of a vigilant citizenry, citizen suit provisions in our environmental laws and citizen groups who are willing to exercise those provisions. Our settlement with the Polo Club is a victory not only for Channelkeeper, but also for the environment, the community and anyone who enjoys Padaro Beach in the future. W

Santa Barbara Polo Club

SAVING

Puerto Rico's Northeast Ecological Corridor

Puerto Rico's Northeastern Ecological Corridor, one of the island's last remaining wilderness areas.

Sustainable enjoyment of the NEC.

By Scott Edwards, Waterkeeper Alliance

One of the last remaining pristine coastal areas of Puerto Rico, the Northeastern Ecological Corridor, is threatened by the proposed development of mega-resorts and residential complexes. Waterkeeper Alliance, Puerto Rico Coastkeeper and the many other supporters of a prosperous Puerto Rico want this area protected for wildlife, the citizens of Puerto Rico and eco-tourism.

On August 8, Waterkeeper Alliance ran a full-page ad on page A11 of The New York Times, placing our call to action in front of a million readers and bringing this issue to the full attention of the hotel chains and the Puerto Rico Legislature.

Critical Leatherback Turtle Nesting Ground, Region's Drinking Water At Risk

Puerto Rico's Northeastern Ecological Corridor (NEC), located along the northeastern coast is home to 40 native and rare, and several threatened and endangered species of plants and animals. Its beaches are one of the most important nesting sites for leatherback sea turtles in the United States. Its 3,200 acres include forests, wetlands, beaches, coral reefs, a bioluminescent lagoon and one of the most popular surfing spots in Puerto Rico.

The NEC is the target for development of two industrial-sized resorts, a high-density residential development and three golf courses. The hotels are proposed even though Puerto Rico now faces a drop in hotel occupancy rates. The reason? Developers use the special status they receive from the government for tourism development to build high-profit residential buildings. Hotels in Puerto Rico often close after a few years as developers recoup their investment. Destroyed habitat is lost forever.

The construction of these projects will place an immense strain on the limited local drinking water supplies of nearly 25,000 people. Tourists, who flock to Puerto Rico to enjoy its cultural and natural resources will have one less reason to visit the island. This is a critical choice for Puerto Rico at a time when eco-tourism is the fastest growing segment of the world tourism market.

Permanent Protection of the Northeastern Ecological Corridor

The Puerto Rico Legislature is considering a bill that will declare the NEC a nature reserve and promote the development of eco-resorts, camping grounds and numerous tourism and recreational amenities. The development of these eco-resorts will diversify the tourist industry of Puerto Rico and allow the unique natural and ecological attributes of the NEC to be developed sustainably and responsibly. Puerto Rico's legislature will consider the legislation this fall. With decisive action, Puerto Rico can permanently protect the NEC and look forward to tapping into the growing, sustainable eco-tourism market. W

TURNING THE TIDE

on the Blackwater and Nottoway

By Bandana Malik, Waterkeeper Alliance

For years after Jeff slammed the fine on Birdsong, Jeff's old friend wouldn't look at or talk to him. Nevertheless, Jeff remained steadfast in his responsibilities, despite the tension it added to his personal relations.

There's an old secret about the Blackwater and Nottoway Rivers in Virginia. No, it is not the type that you keep and cannot tell; it's the type that will flow openly to anyone willing to hear. The otter, mink and eagles know it, as do the rivers' cypress and gum trees. But no person knows it better than the keeper of this secret, and the keeper of the river himself. The secret is this: these two rivers are life sustaining.

The Blackwater and Nottoway Rivers flow through cypress swamps and coffee-colored banks of Southeastern Virginia before uniting to form the Chowan River. Though the rivers run slowly towards each other like close friends for miles upon miles, they are remarkably diverse. The dark, quaint, 85-mile-long Blackwater is hidden between deep swamps and beaver dams, while the 130-mile-long Nottoway is born of rapids and fast flowing rocky streams, collecting the remains of the booming industries on its banks. And almost like a part of the river itself, on three or fours days and nights each week, you will find Jeff Turner out in his boat patrolling, even when others have gone to sleep, because "The river," Jeff says, "is still awake at night."

Jeff did not always have plans to be a Riverkeeper. At age fifteen he was on his way to becoming a professional bass tournament fisherman. As a plucky young member of a local bass club, Jeff would haul the largest and the most bass from the river, while his adult competitors came back empty handed. But right after Jeff's 17th birthday, events unfurled that changed his life forever. Jeff and a friend were on a long stroll into town one day when a car pulled up, offering them a ride. The two boys hopped in the backseat. The driver, unbeknownst to them, was drunk. They bent around a curve, the tires screeched and that was that. The car hit a ditch and tumbled several times. The corner roof where Jeff was sitting caved in, crushing the 6 foot 4 inch-tall Jeff Turner's neck and body.

For a week, Jeff was completely paralyzed and left with the crippling belief that he would never fish again. "It crushed my career plans," says Jeff, "It was a pretty sad time in my life." So, to cope with his physical losses, Jeff turned to the river more than he ever had before for solace. Jeff's relationship with the river developed so much in those years – boating, fishing, thinking – that when he saw a program on television on the Waterkeeper Alliance he only had one goal in mind.

In 2000, the Blackwater/Nottoway Riverkeeper became the 47th Waterkeeper program with a staff of only one, plus his dog-come-assistant, Moonpie. Today Jeff, who is still partially paralyzed says, "As long as I'm sitting in a boat, I'm alright."

Within his first few months as Riverkeeper, Jeff encountered his first polluter. While out on patrol one day, Jeff, who can even tell when the herons migrate by the smell of the water, knew something wasn't right. As he puts it, "I don't have a degree in science, but my forty years on that river is my degree, and on this day a foul smell turned my head and my boat." Fifty feet beyond the river's edge, Jeff found a pipe discharging raw sewage from the bathrooms of Birdsong Peanuts' processing facility directly into the Blackwater River.

Jeff's investigation showed that Birdsong had been spewing sewage into the Blackwater for two decades. The company responded by locking all their bathrooms in the brutal cold of early winter. Ultimately, Birdsong was forced to build a pump station connected to the municipal sewage system and was fined $16,000.

BLACKWATER/NOTTOWAY RIVERKEEPER

Jeff Turner, Blackwater/Nottoway Riverkeeper

Indeed, this was the Blackwater/Nottoway Riverkeeper's first major success, but the story does not end here. In a small town like Franklin where everybody knows everybody, environmental protection is not as simple as sending a fine to a distant stranger; the close nature of relationships makes environmental enforcement all the more challenging. It turned out that the son of the company's Vice President was an old partying buddy of Jeff's. For years after Jeff slammed the fine on Birdsong, Jeff's old friend wouldn't look at or talk to him. Nevertheless, Jeff remained steadfast in his responsibilities, despite the tension it added to his personal relations.

It wasn't until this year, while Jeff was giving a presentation at the local AARP, that he ran into the Vice President of Birdsong. Fearing that he was in for a rough encounter, Jeff was overcome with relief when Mr. Birdsong extended his hand (and not his fist, as Jeff feared) and sincerely thanked him for the work he was doing on the Blackwater. Despite the initial look of shock on Jeff's face, his relationship with Birdsong has since developed into a good working relationship. More recently, Birdsong even placed chairs, tables and garbage cans behind their facility to improve their waterfront for local visitors.

This shift in thinking, in changing the attitudes of industries is what distinguishes Jeff Turner. Since Jeff has become Riverkeeper, more and more industries in Franklin have been going out of their way to take responsibility for their waterways. "We've developed a reputation that we're not just out there to make trouble. So they come to me; they know I know these two rivers and can help them out," Jeff avers. This past year Hercules, a local chemical plant, spilled di-isopropyl benzene on the Blackwater. The plant's head environmental manager immediately contacted Jeff to float down the river and take a look. Jeff recalls, "He didn't want to kill any fish. He was just as mad as I was." Today, wherever he goes, Jeff continues to spread the message that a clean river means a stronger, healthier community.

Besides educating industries on how to improve their equipment and procedures, Jeff's time is spent working closely with the state Department of Environmental Quality to track water quality through a monitoring program, taking people on free eco-tours and spending days and nights patrolling his rivers. All of his activities go towards combating the largest threats to the rivers: agricultural runoff, logging and stormwater runoff.

And behind all of this is a partially-paralyzed man with a tremendous spirit and a 13 year old dog named Moonpie. "I am neither an eloquent writer nor a highly educated man; I am, however, someone who for 40 years has had a love affair with two rivers. I would very much like to continue to have a healthy relationship with my only true love and to be able to gracefully grow old together," he says. "I will accomplish this one way or another, this I swear." **W**

"I am... someone who for 40 years has had a love affair with two rivers."

OUT OF Environmental Adolescence

By Erin Brockovich

Like a member of our family, our relationship with the environment comes down to one basic truth. If we take care of it, it will take care of us. If we abuse it, it will abuse us. In other words, what we contribute to the environment we live in will ultimately come back to us in the way we have consumed it. We are either going to benefit from it, or suffer from it, depending on how well we care for it. We face problems in dealing with the environment. Our focus, at times, seems to get lost through false promises, misdirection and a basic misunderstanding of what it is we are all trying to accomplish.

It is time that we shift our perspective. We cannot be overly concerned with making money and not provide for those things that we should be caring about. Unless we start making some major changes in the way that we deal with the environment, I worry that we will not live long enough to see our retirement days. And even if we do make it, we might not be healthy enough to enjoy those final years.

I believe that if, in the name of profit, the little stream that runs behind the factory has to go by the wayside, or if the big beautiful ocean seems like the only place to dump all those nasty chemicals – well then I say we have gone way too far.

I do not believe for one minute that this type of thinking and this type of action is what we truly intend. If the price that all of us have to pay, because of what we've done to our environment, is illness, disease and poverty as we age, I say that price is way too high.

Part of the problem is human nature. In our youth we believe that we are immortal. We smoke cigarettes, eat processed foods, breath and ingest all sorts of pollutants, taking all sorts of foolish risks. But as we mature we begin to see the need for respect for our bodies. Let's face it, the environment is simply an extension of ourselves. Yet we treat it like we, the human race, are teenagers. We must, and I say that *we must* start treating it differently. We cannot continue to use this planet as some type of massive dumping ground.

The environment is either our ally or our enemy and what we get will depend on how we treat it. As the cliché goes, "The chain is only as strong as its weakest link." This is the struggle. The struggle is the nature of the animal. The animal is the human race and our nature, unless we conquer it, stands between us and our ability to live long, healthy and prosperous lives from the moment of our conception to our final days of reflection. This is not someone else's problem. It is ours as members of the family of humankind.

When any of us suffers from what we have done to our environment, we all suffer. And believe me, that suffering has a human face. In a very real sense, we all share this planet as family members. We cannot hide the consequences of our destruction to environment with shame or excuses. We must realize that there is no shame in having a problem, but there is great shame in ignoring the problem. Once we recognize the problem and extent to which it already hurts our family and ourselves then we can start finding solutions.

It's time for us to grow up. We must all, as an individual, as a community, as a company, as an organization and as a family, think and act differently. This change will require the strength and responsibility that come with maturity. This may be too much to ask of a teenager, but not of an adult. As a government, you can protect the environment and still grow the economy. As a company you can protect the environment and, guess what, you can still make a profit. As people you can protect the environment and still enjoy your life, your family, your health and your retirement days, the gifts that we have all been given. Each one of us needs the air that we breathe and the water that we drink in order to live and love and make it through another day.

This may seem like a high aim, but I can see that the difference is already being made through each and every one of the 156 Waterkeepers around the world. I hope that when you confront a polluter, you are proud. I hope when you demand better enforcement of the laws that protect our waters and our communities, you are proud. I hope that when you declare that access to clean water is not a human privilege but a human right, you are proud. You are facing the problems, you are looking for the solutions and, by God, you are making that difference. W

"Let's face it, the environment is simply an extension of ourselves."

On June 22, San Francisco Baykeeper, presented Erin Brockovich with Baykeeper's Dorothy Reid Environmental Leadership Award.

Radioactive waste is building up at nuclear reactors around the world. Some of this waste is leaking into our waterways, drinking water supplies and the environment. Yet the search for solutions to these problems receives none of the unbridled enthusiasm and seemingly limitless government financial backing reserved for promoting the nuclear industry.

Waterkeeper's perspective is not anti-nuclear but pro-community, pro-safety, pro-prosperity, pro-democracy, pro-environment. Nuclear power is financially untenable without multi-billion dollar government subsidies and regulatory loopholes that put the public at imminent risk and shield the industry from responsibility for their actions. It's time for the nuclear energy industry, politicians and public officials to get cracking on real solutions for the problems that this industry poses to our waterways and our communities.

ATOMIC POWER'S Achilles Heel

Nuclear Energy From The Watershed Perspective

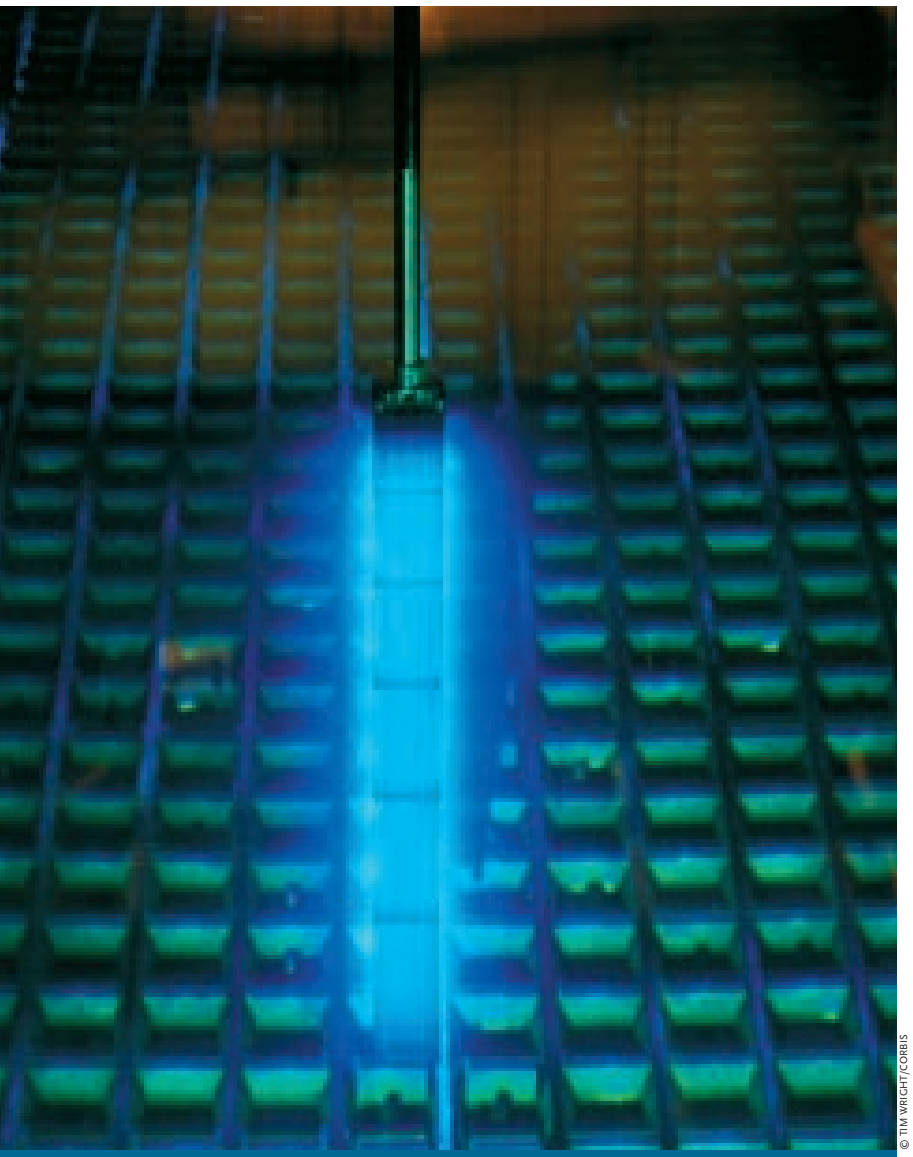
U.S. Nuclear Plants

There are 103 commercial nuclear reactors at 65 sites around the United States.

NUCLEAR REGULATORY COMMISSION

Invisible Poisons

By Lisa Rainwater, Riverkeeper



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Fuel Rod

A spent nuclear fuel rod in a cooling pond at the Surry Nuclear Power Station in Virginia. Once the rods are used up, they are hot and radioactive. Water-filled pools are used to cool and store the fuel rods that glow bright blue with Cherenkov radiation.

>>**EXPERTS ESTIMATE** that a quarter of the nation's 65 reactor sites have radioactive leaks. In many instances they go undetected for long periods of time. Local elected officials and the public are kept in the dark even longer. Regardless of your view on the merits or shortcomings of nuclear power with respect to national energy policy, the immediate threat of radioactive leaks from existing nuclear power plants is an ongoing, increasing problem that cannot be ignored.

Radioactive waste created as a byproduct of generating electricity at nuclear power plants remains deadly for up to 300,000 years. There are 50,000 tons of this waste in spent fuel pools and dry casks at commercial nuclear power plants across the United States. The federal government has yet to find a long-term way to deal with this radioactive waste.

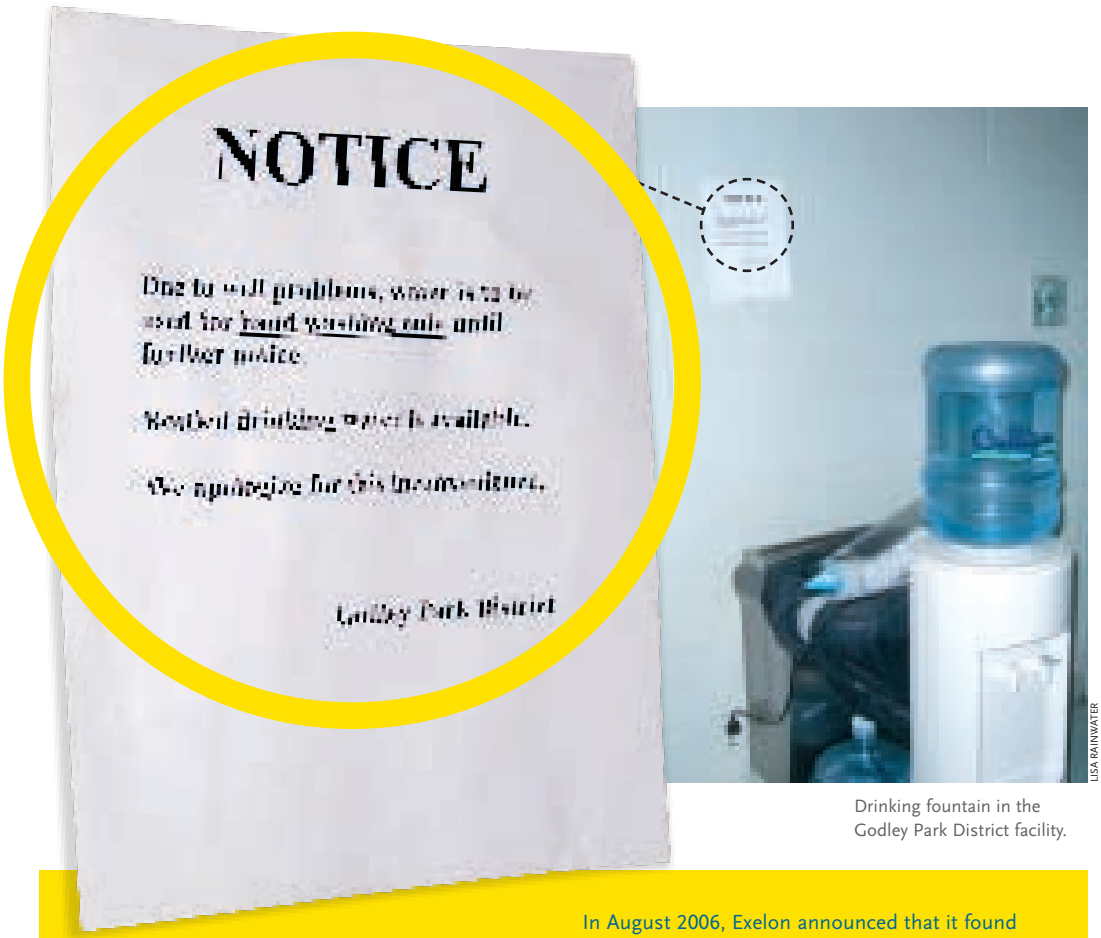
In the last decade, numerous U.S. nuclear power plants have reported radioactive leaks into groundwater, public waterways and the drinking water of local communities. More than half of these leaks have occurred since 2005. These are invisible poisons that cannot be detected by sight, smell or taste. They are also some of the most dangerous toxins known to mankind. Yet there is no law or regulation requiring state or local notification of "unplanned" spills or leaks at nuclear power plants. Local officials and the public must rely on the openness and integrity of nuclear power plant operators and government officials to be kept informed of such leaks.

The response from government and the corporate world continues to be consistent and routine: "There is no threat to public health and safety." Such "no threat" statements offer little reassurance to the people living next to the Braidwood nuclear plant located 60 miles south of Chicago. They've been on bottled water since March 2006 due to a six million gallon leak of radioactive tritium into their groundwater over the course of a decade.

The health impacts and psychological effects of radioactive waste leaking from a nuclear power plant can be daunting to nearby communities. It can also be a call to action. Just ask the people living near the Braidwood nuclear facility.

Welcome To Godley

A hazy, Midwestern summer sky hung low with rain, as I drove out of Chicago on a humid July day



LISA RAINWATER

Drinking fountain in the Godley Park District facility.

In August 2006, Exelon announced that it found tritium in groundwater at 10 of their 11 nuclear power stations.

to meet with residents living near the Braidwood nuclear power plant in Will County, Illinois. My route brought me through the city, past suburban box stores and strip malls and finally to the local charm of small bedroom communities an hour south of the third largest city in the United States.

Several of these small communities dot a contaminated landscape, a landscape that is polluted with radioactive tritium. The communities of Godley, Braidwood and Wilmington have been most directly affected by the six million gallon tritium spill that began to flow silently into the Kankakee River and groundwater nearly a decade ago. Yet until 2005, the communities had no idea that they were drinking from potentially contaminated wells and fishing in heavily polluted waters. They received no warnings from Exelon, the owner and operator of the two-unit Braidwood nuclear power facility, or from the Nuclear Regulatory Commission, the federal agency charged with "protecting public health and safety through regulation of nuclear power." Since the discovery of the radioactive contamination, this blue-collar community has been trying to force the corporation and federal government to face the issue head-on and to sort out the details of the problem.

Exelon, the country's largest nuclear power corporation, owns the two Braidwood reactors capable of generating 2,400 megawatts of electricity. Braidwood is built on 4,000 acres of land and is separated from neighboring communties by a series of interconnected ditches that serve as troughs to collect effluent and plant runoff. Under the ground, miles of pipes – blowout lines – run in an interconnected maze toward the Kankakee River, carrying legal and illegal radioactive discharge to the 90-mile waterway.

A sea of day lilies greets visitors to the Godley Park District, which lies a short distance from Braidwood and its troughs. The facility is a recreation center for the communities around the plant. Immaculate and well maintained, it signifies the sense of pride shared by staff and area residents in their community. In a small alcove along a corridor stands a water fountain, a typical fixture in most public places in the Midwest, but this one stands

The Players

Atomic Energy Commission
Now disbanded federal agency charged with regulating and promoting nuclear power

Exelon
The owner/operator of the Braidwood nuclear power plant

Entergy Nuclear Northeast
The owner/operator of the Indian Point nuclear power plant

Nuclear Energy Institute
The lobbying arm of the nuclear industry

Nuclear Regulatory Commission
The federal agency charged with regulating the nuclear industry and nuclear waste

ANGELA ROSE

Joe Cosgrove points out the location of tritium spills on the Braidwood site to author Lisa Rainwater.

LISA RAINWATER

Godley residents receive water in gallon jugs.

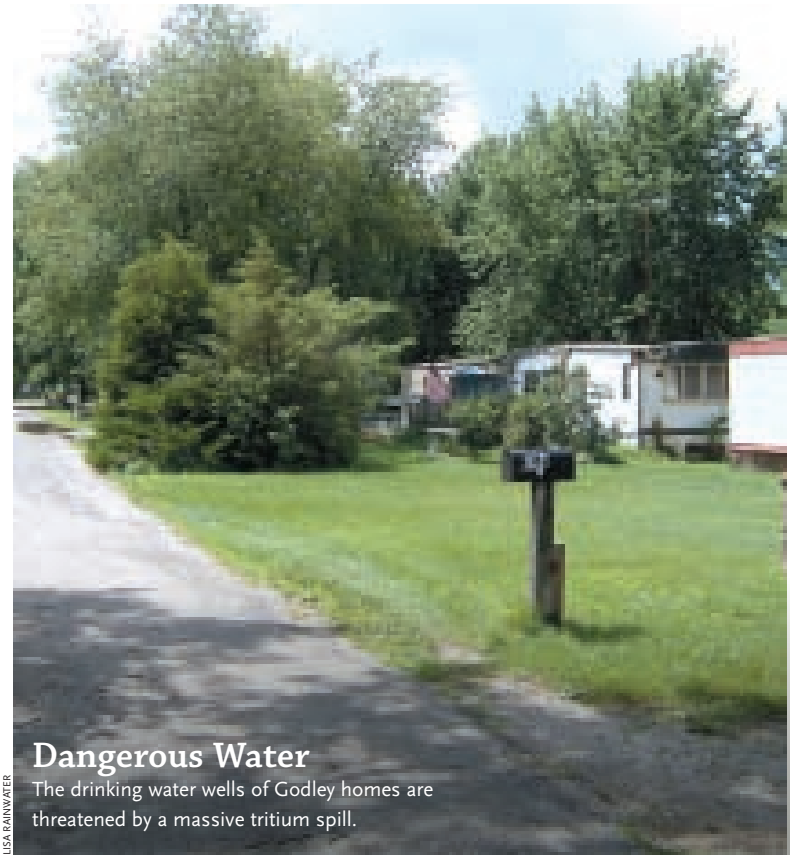
dry, a constant reminder that this community has lost one of its most basic needs and rights: safe, clean potable water.

It has been a whirlwind year for residents of this rural community. In December 2005, the Nuclear Regulatory Commission officially notified the Godley community that Exelon had released more than six million gallons of tritium from the Braidwood plant into the Kankakee River and into groundwater. The Nuclear Regulatory Commission also notified the community that tritium had been found in one of the private wells used for drinking water. Exelon and federal officials had known about the illegal leak for nearly a decade, but only released information to the public after a community drinking water well tested positive for tritium. Godley was thrust into the national spotlight as the poster child community for what can go wrong at a nuclear power plant and with the government agencies that regulate it.

Tritium is a radioactive isotope that when inhaled, ingested or absorbed by the skin can cause cancer, birth defects, miscarriages and genetic damage. It is a by-product of nuclear power found in the water used to cool the reactor and water used to cool spent fuel rods.

At the moment there is less focus on the ecological impacts to the Kankakee River than with the potential health effects on the human population that may have been exposed to tritiated water for nearly ten years. Now, as a protective measure, the town is on bottled water – 20 gallons a week per household, complements of Exelon. The bottled water, however, cannot replace what was lost. Twenty gallons is not nearly enough to both drink, cook with and bathe in so, as one resident explained, "We just jump in the shower quickly, and jump back out."

"Water is such a basic need. Letting anything degrade it – that is just wrong," explains Joe Cosgrove, the mild-natured Parks Director who has become nuclear watchdog, mediator, confidant, researcher and beacon of light for the residents of Godley. "In our community we weren't activists. We were just concerned for our safety. I believe it [Braidwood nuclear facility] could be run safe," he declares, still holding out optimism for a situation that only seems to worsen with each news release from the Nuclear Regulatory Commission.



LISA RAINWATER

Dangerous Water
The drinking water wells of Godley homes are threatened by a massive tritium spill.

The NRC Safety Dance

The Nuclear Regulatory Commission is the federal agency charged with overseeing the commercial nuclear power industry and the proper handling and storage of radioactive waste produced at nuclear power plants. The Atomic Energy Commission previously held this job. But in the 1960s concerns grew over the conflict in the agency's mission of promoting nuclear power *and* regulating the nuclear industry to protect public health and safety. Congress responded to this dangerous contradiction by abolishing the Atomic Energy Commission and creating the Nuclear Regulatory Commission in January 1975.

In recent years, members of Congress, two former commissioners and national nuclear watchdog groups have raised concerns that the Commission has embarked on a similar path that its predecessor did three decades ago. And with what's been characterized as a 'nuclear renaissance' in the U.S. on the horizon, the Commission could find itself in a precarious safety dance rife with conflicts of interest.

The latest concerns revolve around the fact that the Nuclear Regulatory Commission withheld information about the tritium leaks at Braidwood for nearly a decade and that it has withheld similar knowledge from local officials and the public at other sites as well. The people living near Braidwood are hardworking, family-oriented, church-going folk striving to give their children better lives than they had growing up. Their lives are severely impacted by a massive leak of a colorless, odorless radioactive poison, a federal agency that failed to notify them promptly and a nuclear power corporation whose deep pockets extend to political candidates, but not to the communities they poison.

Braidwood is currently the only nuclear community forced to drink bottled water due to tritium leaks, but such leaks at U.S. nuclear plants are on the rise. And there is growing concern that other communities are not being informed about what's going on at their nuclear plant. Case in point: Indian Point in Buchanan, New York.

Secret Leaks

Nearly a month passed before the Nuclear Regulatory Commission notified elected officials and the public of a tritium leak discovered at the Indian Point nuclear power in August 2005. Unlike Braidwood, the Indian Point leak does not stem from two or three major radioactive spills, but rather a slow, persistent leak containing a cocktail of deadly radioactive isotopes, including tritium, strontium-90 and cesium-137. No one knows for sure how long it has been leaking (estimates range from a few years to a decade), from where it's leaking (though definitively from at least one spent fuel storage pool) or at what volume. It is known that a large radioactive plume is currently migrating through the groundwater under the plant, but its size, depth and migration pattern are still unknown. In 2006, the public was informed that the radioactive leak is now more than likely seep-

Reported Radioactive Water Leaks at U.S. Nuclear Power Plants

TIME FRAME	LOCATION	OWNER/OPERATOR	CONTAMINATION (TRITIUM LEVELS)
1996, 1998, 2000	Braidwood, IL	Exelon	Millions of Gallons of Tritiated Water Released into Groundwater and Kankakee River *(3 times EPA limit)*
January 1997	Brookhaven National Laboratory; Upton, NY	U.S. Department of Energy	Tritiated Water Leaking into Public Drinking Water Aquifer *(32 times EPA limit)*
September 2000	Lynchburg, VA	BWX Technologies	Spent Fuel Cask Pool Leaking Irradiated Water into James River *(Cesium-137, 90 times EPA limit)*
September 2002	Salem, NJ	PSEG	Spent Fuel Pool Leaking into Groundwater *(3 times EPA limit)*
August 2004	Dresden, IL	Exelon	650,000 Gallons of Tritiated Water Leaking into Groundwater *(500 times EPA limit)*
September 2005	Indian Point, NY	Entergy Nuclear Northeast	Tritium *(20 times higher)*, Strontium-90 *(3 times EPA limit)*, Cesium-137 *(50 times EPA limit)* Leaking into Groundwater and Hudson River
October 2005	Haddam Neck, CT	Connecticut Yankee Atomic Power Company	Tritium, Strontium-90, Cesium-137, Cobalt-60 Leaking into Ground *(Below EPA limit)*
March 2006	Wintersburg, AZ	Arizona Public Service	Tritiated Water Discovered in Underground Pipes *(3.5 times EPA limit)*
February 2006	Byron, IL	Exelon	Tritiated Water Discovered in Underground Vaults and Piping *(4 times EPA limit)*
June 2006	Fulton, MO	Union Electric	Blow-Down Line Valve Leaks Tritium *(10 times EPA limit)*
July 2006	Clinton, IL; LaSalle County, IL; Montgomery County, PA; York County, PA; Quad Cities, IA; Londonderry, PA	Exelon	Tritium Leakage Detected Above Background Levels *(Levels not reported)*
August 2006	San Clemente, CA	Southern California Edison	Decommissioned Reactor Leaking Tritium into Groundwater *(15 times EPA limit)*
August 2006	Kewaunee, WI	Dominion	Leaking Tritium into Groundwater under Turbine Building *(5 times EPA limit)*

**Newly disclosed radioactive leaks have been reported at three nuclear plants in Tennessee.*

ing into the Hudson River, a source of drinking water for towns in the Hudson Valley and, in the event of a severe drought, for New York City.

Situated on the banks of the Hudson River, 24 miles north of New York City, Indian Point has been under public and political scrutiny since the terrorist attacks of September 11, 2001. Led by environmental and public health groups, and a large bipartisan coalition of federal, state and local elected officials, safety, security and emergency planning issues have been at the forefront of efforts to shut the plant down. Now that the plant is leaking radioactive poisons into the environment, public concern has increased further. At a Nuclear Regulatory Commission public hearing in March 2005, more than 500 local residents showed up to voice their concerns over the safety of the plant. In April 2006, Riverkeeper filed a Notice of Intent to Sue the plant's owner for the leak. The owner, Entergy Nuclear Northeast, is a subsidiary of Entergy – the second largest nuclear power plant owner in the country.

It is disconcerting to a community when it learns that a nuclear plant is leaking radioactive pollutants. It is also troubling to learn that the Nuclear Regulatory Commission has no formal regulatory measures in place to monitor such leaks, to notify local elected officials and the public or to require immediate remediation of such onsite leaks.

Prompted by the growing list of leaks and no formal regulatory process, the Union of Concerned Scientists and 22 national and regional watchdog groups – including Riverkeeper – formally petitioned the Nuclear Regulatory Commission in early 2006. The petition called for all nuclear power plant operators to provide information on their methods for measuring leakage of radioactive toxins. The groups also sought answers to questions regarding industry compliance with federal regulations and the health risks to the public.

While nuclear watchdog groups and environmental organizations continue to pressure the Commission to increase and improve oversight of the industry, the Nuclear Energy Institute – the lobbying arm of the industry – is discouraging the Commission from implementing tougher standards for the nuclear industry.

Nearly six months after the Union of Concerned Scientist's petition was submitted, the Commission issued a draft decision stating that the agency was satisfied with the industry's proposed voluntary reporting initiative and would seek no further regulatory actions. It appears that federal regulation has become synonymous with industry self-regulation. The public interest coalition is currently seeking to reverse this decision.

In its decision, the Nuclear Regulatory Commission noted that "all available information on those [radioactive] releases shows no threat to the public health and safety." That information isn't much comfort for Godley residents, who continue to rely on 20 gallons per week of bottled water. Godley resident Linda Schott's major concern is what health impacts leaks have had and will continue to have on her family and neighbors. A mother of four and grandmother of eleven, she quietly notes, "Female health problems are common in the area." She and her daughter have suffered from them, and many of her friends have as well. "Covering things up and lying to us is not being a good neighbor. And that's basically what they did."

"Covering things up and lying to us is not being a good neighbor. And that's basically what they did."

ANGEL ROSE

Linda Schott

Exelon & Atom, The Crime-Fighting Dog

Schott is frustrated. This isn't the first major safety problem that Exelon has tried to 'cover up.' In 2000, approximately 5,000 gallons of diesel fuel oil spilled onsite migrating into the ditches that separate plant property from neighboring property owners. Local government officials were not notified of the leak. At a public hearing Exelon initially claimed that the fuel originated from stormwater runoff from parking lots. It was later confirmed that the diesel fuel oil came from leaking underground pipes from storage tanks for back-up power generators, vital equipment found at nuclear plants. The Godley Park District filed a lawsuit against Exelon in 2001 when a measurable amount of xylene was found in one of the Park District's drinking water wells, but quickly ran out of money to fund litigation against a multi-billion dollar corporation. Exelon reported $79 billion in assets, with $26.9 billion in revenues in 2003. The Parks Department's annual budget and its legal resources to combat the pollution from the nuclear plant is paltry by comparison.

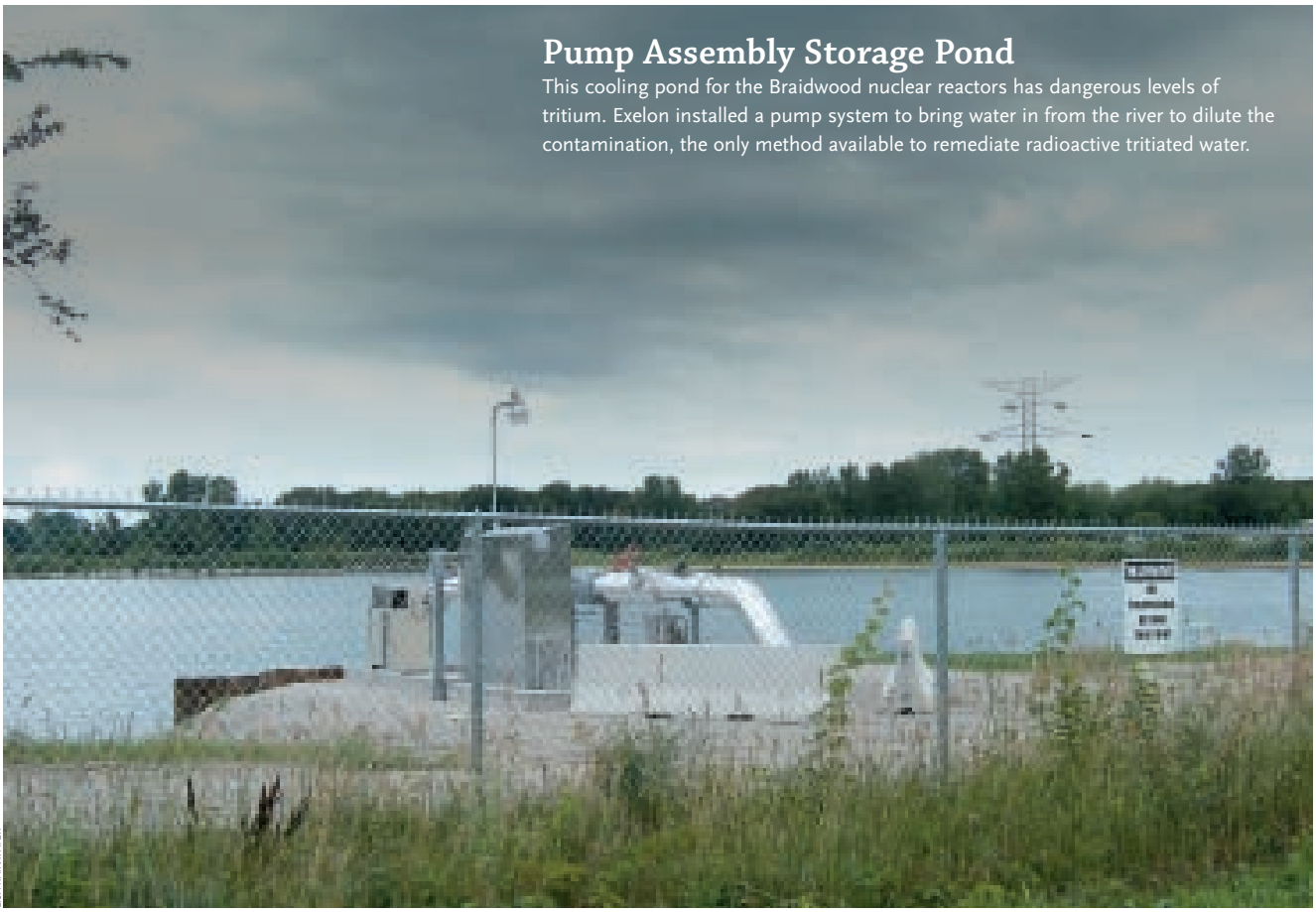
Exelon's mishandling of the spills has bred community mistrust for the corporation. Pearl Jones, whose property abuts the draining ditches, noted, "We've heard so much and you don't really know what's going on."

This pervasive mistrust has not gone unnoticed. Since Exelon's troubles at Braidwood, the corporation has tried to curry favor with the community. In 2001, it launched "Fishing for the Cure," an annual bass competition with proceeds going to a local charity. In April 2006, it purchased a crime-fighting dog, Atom, for the local police department. Exelon also sponsors the community's July 4th fireworks display. The generosity Exelon peppers on the community, however, pales in comparison to the more than $500,000 that Exelon's political action committee spent in the 2002 congressional election cycle.

Big money, however, is not about to deter Joe Cosgrove this time. "I'm fortunate to have community members that support my work for the Park District," he explains, when asked how he keeps go-

A sign guards the entrance of the Exelon nuclear power generating station in Braidwood, IL, March 17, 2006.

SCOTT OLSON/GETTY IMAGES



Pump Assembly Storage Pond

This cooling pond for the Braidwood nuclear reactors has dangerous levels of tritium. Exelon installed a pump system to bring water in from the river to dilute the contamination, the only method available to remediate radioactive tritiated water.

LISA RAINWATER

ing. His latest battle with Exelon over the tritium leaks has propelled him into an entirely new role. He is a point person in the community for federal and state regulators, local government officials, government and private attorneys, the media, and, of course, his neighbors. Perhaps Cosgrove's greatest credibility factor is that he isn't looking to shut down the nuclear plant, he simply wants the corporation to take responsibility for the spills and their impacts on the community. "We hold them to a higher standard. They're not a chocolate factory. They're a nuclear plant," he says.

The six million gallon tritium contamination leak stems from safety breaches at Braidwood. The source is a five-mile pipe that flushes water from the plant's cooling lake into the Kankakee River. Beginning as early as 1996, large volumes of tritiated water began leaking from these underground pipes. In 1998, a valve broke, allowing approximately three million gallons of contaminated water to leak into the river and the groundwater. The same problem occurred in 2000, releasing an additional three million gallons into the environment.

"[The ditch] doesn't even freeze in the winter like it used to. Kids used to skate on it. Now it smells like 'stag' water."

ANGELA ROSE

Godley resident Pearl Jones

While Exelon searches for answers to the leak, they are facing growing pressure from the community and its elected officials. The current linchpin in the Braidwood case is over a new public waterworks system for surrounding communities. For decades, private, shallow sandpit wells ranging from five to 12 feet deep have been the source of drinking water for Godley residents. So far, one private drinking water well, and 28 test wells have tested positive for tritium, with levels up to 11 times higher than the standard deemed "safe" by the federal government. Neighboring Wilmington has different problems. In 1990, this city stopped drawing drinking water from wells due to high levels of radium discovered during routine testing. Believing that the Kankakee River was a safe alternative, Wilmington opted to draw its drinking water from the river. But now that the river has been contaminated with tritium, officials are again looking for a safe water source.

In February 2006, Exelon agreed to pay a portion of the costs to build a public water system. Negotiations, however, broke down when elected officials asked Excelon to pay the full costs of the new system, estimated at $12 million. The bill to restore safe drinking water to the community is a minute fraction of the earnings and assets of the company, which are derived in part from its operations in the community. In March 2006, Illinois Congressman Jerry Weller wrote a letter to Exelon Chairman John Rowe stating, "I believe Exelon bears the sole responsibility, both logistical and financial, to ensure local residents have a clean and reliable drinking water source. I was somewhat dismayed to learn Exelon pledged only to cover costs not paid by federal, state and local governments, as if those funds are to be a given."

State agencies have begun to put the heat on Exelon. The Illinois Environmental Protection Agency issued an order against Exelon for violating sections of the state's Groundwater Act. The corporation can be fined up to $10,000 per day for each violation.

Unlike the diesel fuel spill, for which Cosgrove found himself and the Park District alone in battling a multi-billion dollar corporation, he now has the legal support of state and local governments backing him and effected residents. Illinois Attorney General Lisa Madigan and Will County State's Attorney James Glasgow have filed a lawsuit against Exelon for releasing tritium into the groundwater at the Braidwood plant. The suit, filed in March 2006, alleges that tritiated water was released at eight locations at the plant on six occasions since 1996. Several of the leaks, according to the lawsuit, occurred due to "inadequate maintenance and operation" of vital systems.

Some residents of Godley have also filed a class action suit against Exelon for property damage and compensation for "loss of use and enjoyment of property." Meanwhile, Exelon is moving ahead with the purchase of properties in the area, buying an adjacent horse track and thoroughbred ranch and boarding up the property with flimsy fencing plastered with "No Trespassing" signs. But owners of the trailer homes near the Braidwood plant have not recieved the same generous buyout offers. Pearl Jones has received no offer. Of the effluent ditch sidelining her property, she says, "it doesn't even freeze in the winter like it used to. Kids used to skate on it. Now it smells like stag water."

This is the kind of anecdote one hears all over Godley for, as in many small towns across the country, people here are willing to take the time to share their stories, if given the opportunity. In discussions with residents I was told about the strange occurrences to befall the village of Godley over the last few years: a champion competition dog whose hair turned orange after jumping into one of the plant's ditches; several litters of deformed puppies born from a champion breeder's bitch; and goats at a local hobby farm that had numerous unexplained miscarriages. Several respected community members also spoke quietly with me about the cancer deaths of two cleanup workers in their thirties, and a third also in his thirties dying of cancer; a significant increase in medically-required hysterectomies in young and old women alike; and an increase in thyroid problems throughout the population at large.

The health problems and concerns of area residents are beginning to receive needed attention. In June 2006 Illinois Senator Dick Durbin announced that the Federal Agency for Toxic Sub-

stances and Disease Registry (ATSDR) agreed to conduct an independent health study of the Godley and Unincorporated Reed Township area. The study will investigate potential health impacts of tritiated water. Durbin's request of the federal agency stemmed from a report conducted by the Concerned Citizens Awareness Group, a local community group that documented over 60 cases of cancer in residents living within a three-mile area of an outlet pipe from the Braidwood plant during a 20-year period. The residents of Godley are now anxiously awaiting the findings of the ATSDR study.

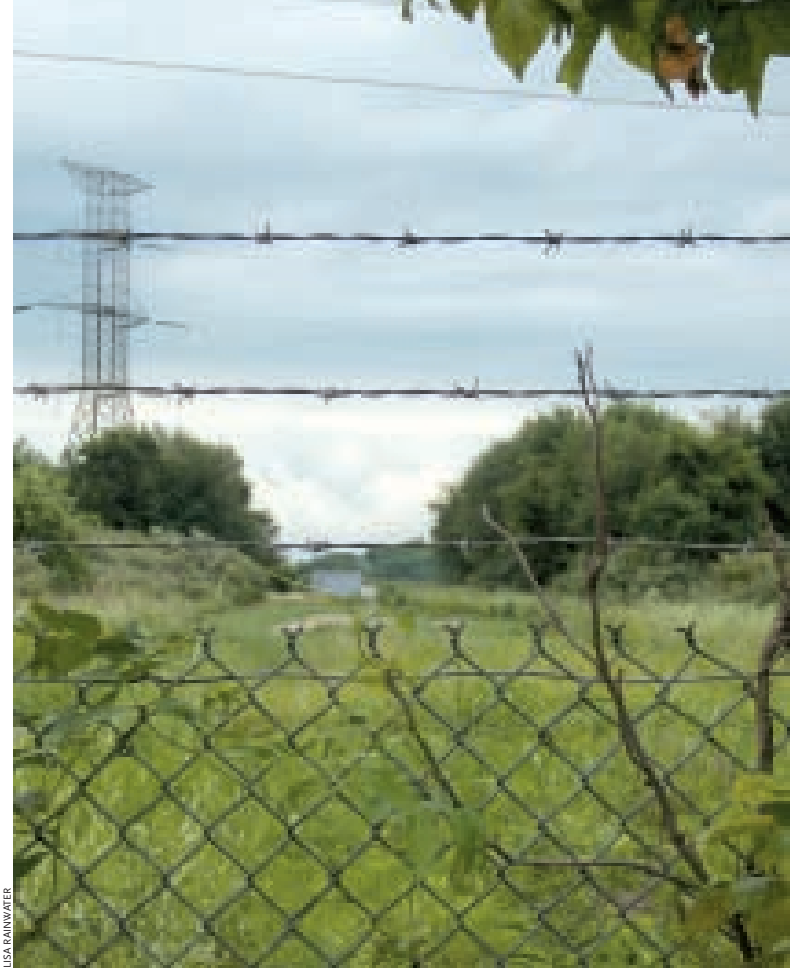
Other members of the Illinois Congressional delegation have also stepped up their efforts with regard to the tritium leak and Nuclear Regulatory Commission oversight.

Political Meltdown

Politics and nuclear power have always had a symbiotic relationship. In 1953, President Dwight D. Eisenhower announced his "Atoms for Peace" initiative, which sought to shift American and world perspectives on nuclear technologies from one of war and destruction to one of peace and energy production. In 1979, President Jimmy Carter banned the reprocessing of spent fuel – which creates weapons-grade plutonium as a byproduct – out of concern over nuclear proliferation. And a strong band of Nevadan elected officials have prevented the Department of Energy from opening the nation's proposed high-level waste repository at Yucca Mountain. Now, with a pro-nuclear administration in the White House, another approach and another shift in thinking about nuclear power has entered public discourse.

Since the near meltdown at Three Mile Island in 1979 and the Chernobyl disaster in 1986, no new licenses for U.S. nuclear power plants have been approved. But that hasn't prevented the industry from testing the waters and paving the way for a new wave of nuclear power plant construction. Spurred on by the Nuclear Energy Institute and the extensive promotion of nuclear expansion by the Bush Administration and a handful of U.S. Members of Congress, notions of an American 'nuclear renaissance' have reached near-mythical proportions in the media and on Capitol Hill. Nuclear power has been connoted as 'green,' a 'cure to global warming' and a 'solution to our foreign oil dependency,' without discussion of the legacy of nuclear contamination and pollution.

Big money can be traced from nuclear political action committees and lobbying groups to President Bush, Vice President Dick Cheney, Sen. Pete Domenici, Sen. Mary Landrieu, Sen. James Inhofe, Rep. John D. Dingell, Rep. Lindsey Graham and Rep. Ralph M. Hall. Those who have received the



LISA RAINWATER

Exelon property contaminated by six million gallon tritium spill.

Radioactive Isotopes Created by Nuclear Power Plants

Tritium (H3) 12.3 Year Half-life	» Radioactive isotope of hydrogen. » Byproduct of nuclear fission at nuclear power plants. » Replaces hydrogen in water molecules, forming 'tritiated water.' » If absorbed in liquid form, concentrates in soft tissue and organs. » Exposure increases risk of cancer, miscarriages and genetic defects.
Strontium (SR-90) 29.1 Year Half-life	» Byproduct of nuclear fission at nuclear power plants. » One of the most hazardous constituents of nuclear waste. » Behaves chemically like calcium, concentrating in bones and teeth. » Internal exposure linked to bone cancer and leukemia.
Cesium (CS-137) 30.13 Year Half-life	» Metal byproduct of nuclear reactor waste. » Moves easily through the environment, making it difficult to clean up. » Absorbed by breathing in contaminated dust, handling irradiated equipment or drinking contaminated water containing a dissolved form of cesium. » Exposure increases risk of cancer.

heftiest campaign donations are also the strongest and loudest proponents of the expansion of nuclear power – primarily through billions of dollars in taxpayer subsidies for the construction of these facilities.

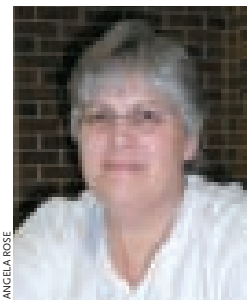
In the 2002 election cycle, according to Public Citizen's 2003 report *Hot Waste, Cold Cash*, the nuclear industry contributed over $4 million to U.S. House of Representatives election campaigns, nearly a million of which went to those working on the energy bill. Nuclear political action committees sent a total of $3 million in contributions to the U.S. Senate from 1998 to 2002. In return, the *Energy Policy Act of 2005* provides over $13 billion in subsidies and tax breaks to the nuclear industry. The Energy Policy Act also renewed the Price-Andersen Act, an insurance policy for the nuclear industry that caps liability payouts in the event of a nuclear disaster at $10 billion. These most recent subsidies are on top of the $145 billion in subsidies given to the nuclear industry over the last five decades. In comparison, renewable energy received $5 billion in subsidies during that same time frame.

Financial incentives are not the only benefits of hefty campaign contributions. Policy changes are also key to guaranteeing a nuclear renaissance. Under the Bush administration, the Nuclear Regulatory Commission has changed its regulations to make it not only easier to site and permit new nuclear power plants, but also to swiftly add an additional 20 years of operation onto currently operating plants. The Commission has already approved license extensions for 44 reactors, while eight are currently under review and approximately 30 more are slated for submission within the next decade. Three early site permit applications for new reactors are already before the agency.

It seems that a steady stream of taxpayer money, all-powerful energy conglomerates and influential powerbrokers may be just the right formula to bring the nuclear industry back from near extinction.

But while U.S. politicians seem quick to push new plants, polls suggest that the public doesn't want them. A 2005 International Atomic Energy Agency poll of citizens in 18 countries (including the U.S.) on their opinions on nuclear power found that, "While majorities of citizens generally support the continued use of existing nuclear reactors, most people do not favor the building of new nuclear plants."

"They just don't care about us. Exelon made a decision on the people of Godley – they're low-income, low-educated, poor folk on the other side of the railroad track."



ANGELA ROSE

Former Godley Resident Christine Anne

Civic Solutions

The story of Braidwood highlights how a corporation, aided by the federal agency charged with regulating it, can elude responsibility for serious safety problems. It also exemplifies the strength and unity of a community when threatened. Godley, Braidwood and Wilmington citizens, who would never characterize themselves as "activists," came together in a time of uncertainty and forced their elected representatives – from the local to state to federal levels – to pay attention and act to protect their community. Until residents stood up and recognized their important role in the democratic process, repeated assaults on their environment fell through the cracks of federal and state agencies.

That is not to say it wasn't an uphill battle. Christine Anne, a former resident of Godley, felt that Exelon's behavior was in large part due to prejudices against the community, "They just don't care about us. Exelon made a decision on the people of Godley – they're low-income, low-educated, poor folk on the other side of the railroad track." But when faced with the incredible power of big government and the influence of multi-billion dollar energy corporations, what community in America cannot be viewed as poor folk from the other side of the track?

These barriers make it all the more important that the residents of Godley are no longer fighting the tritium battle alone. Godley Park District director Joe Cosgrove seems pleased that state and federal elected officals have become actively involved. But he also realizes that they are a long way from bringing certainty or justice to a community that has repeatedly been lied to and mistreated. He pauses for a moment when thinking about his newfound second career protecting his community. "You have to find something for the people – some solution, some justice. For us the basic thing," he reflected, "is a safe and secure drinking water supply. Community awareness is the second solution – when government and elected officials know they're held accountable, they act."

He may have to wait a while longer for the first solution, but the second seems to have already happened and is now well on its way toward maturity. **W**

But when faced with the incredible power of big government and the influence of multi-billion dollar energy corporations, what community in America cannot be viewed as poor folk from the other side of the track?

Uranium Mining on Navajo Land

By Emily Nicolosi

>>**DURING THE** Cold War, the United States government employed thousands of American Indians on western reservations to excavate uranium ore to fuel nuclear reactors and atomic bombs.

"When we were hired we weren't aware of the potential hazards," says former uranium miner Larry King. King worked for the United Nuclear Corporation's mine in the Eastern Navajo Agency near Crownpoint, New Mexico from 1975 to 1983. He and his fellow workers mined without any protection from uranium exposure. "It wasn't until afterward that I started learning about hazards," King explains. "Indian Health Services was experiencing a lot of patients with cancer – lung cancer – so they did a study. All the cancer linked back to the past uranium miners." To date, thousands of miners have died from uranium-related illnesses and many others are sick.

The mining also subjected miners' families and other community members to radioactive contamination and associated illness.

Today there are more than 1,100 abandoned uranium mines in the Navajo Nation, many of which continue to emit contamination. The thousands of Navajos living near these mines are financially unable to relocate, and the government has not taken action to clean up the mines.

It was not until 1990 that the government gave assistance, in the form of the Radiation Exposure Compensation Act. The law was intended to compensate those who became ill from uranium exposure. However, its provisions do not include compensation for families living near former mines, or even for miners, like Larry King, who worked after 1971.

While residents of the Navajo Nation and its surrounding communities continue to deal with issues arising from past uranium mining, they face

CHRIS SHUEY

Left: Larry King of Church Rock, NM.

Below: A home on the Navajo Reservation, approximately 15 miles northeast of Gallup, NM, sits within 500 feet of an unreclaimed, highly contaminated uranium mine waste dump.

LYNNEA SMITH

another challenge from uranium mining interests. Hydro Resources, Inc. is proposing four new uranium leach mines in the Crownpoint and Church Rock chapters of the Navajo Nation. This project threatens to contaminate the only water source for 15,000 people, some of whom already commute 60 miles a day to haul water for drinking, cooking, bathing and livestock.

Uranium ore beneath the ground is not harmful; in fact, Crownpoint has one of the most pristine aquifers in New Mexico. The proposed in situ leach mines will inject chemicals into the groundwater to strip uranium from the host rock. The mixture of chemicals and uranium is then pumped up through a well and sent to a plant to be refined. The aquifer is left contaminated by uranium, other radioactive substances and heavy metals such as arsenic and selenium.

Leach mining has never been performed in an aquifer that is used for drinking water. When the technique was tested in Crownpoint, Navajo resident and laboratory technician Mitchell Capitan observed that "the company could not reduce the majority of contaminants to pre-mining 'baseline' levels after more than six years of restoration attempts."

The aquifer in Crownpoint currently contains less than one microgram per liter of uranium. The mining could increase this level up to 100,000 times. According to the mining company's Nuclear Regulatory Commission license, Hydro Resources is only required to restore the groundwater to 440 micrograms per liter – a level well above the Environmental Protection Agency's maximum recommended level of 30 micrograms per liter, and many times higher than the World Health Organization's standard of 2 micrograms per liter.

"Numerous health studies show that even low levels of uranium in drinking water can be toxic for the kidney," Dr. John Fogarty warns. Fogarty worked as a doctor with Indian Health Services in Crownpoint for seven years and started the first uranium miner's screening clinic for signs of uranium-related illness. His concern with the new project led him to the board of a group called the Eastern Navajo Dine' Against Uranium Mining.

The vast majority of Navajos say "*Łeetso Dóoda*" – no uranium mining. After witnessing the failure of the test project in Crownpoint, Mitchell Capitan and his wife Rita organized hundreds of community members to come together to keep Hydro Resources from destroying their only source of drinking water. The company has been held off in court since 1994. Although most of the Nuclear Regulatory Commission's rulings have been in the mining company's favor, Crownpoint's aquifer remains safe – at least for the time being. W

Wasting Utah

Stopping Private Fuel Storage

By Jeff Salt, Great Salt Lakekeeper

The National Academy of Sciences has established guidelines for sequestering nuclear waste that call for a minimum isolation period of 300,000 years. But finding a safe place to wait out the next 300,000 years is not easy. The industry's solution: turn the problem over to the federal government, sparsely populated states and impoverished Native American tribes.

THE SALT LAKE TRIBUNE

STOP THE PRESSES—BREAKING NEWS:

Utahns Deliver Killing Blow to Skull Valley Nuke Waste Plan

On September 7, the Bureau of Land Management denied a crucial permit for Private Fuel Storage to build a transfer station for offloading nuclear waste from railcars to haul trucks and transporting it to the reservation. This was the final approach available to Private Fuel Storage for shipping nuclear waste to Utah for temporary storage, after their preferred rail line option was blocked by the creation of the Cedar Mountain Wilderness.

In addition, the Bureau of Indian Affairs has officially vacated the lease agreement with Private Fuel Storage for storing the waste on the Skull Valley Reservation.

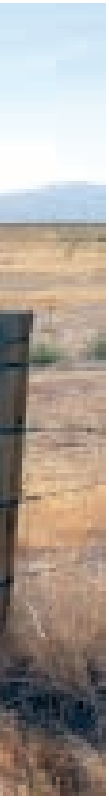
These actions officially kill the proposal. No nuclear waste will be traveling along rail lines through hundreds of communities and watersheds to Utah.

According to U.S. Senator Hatch's office, the BLM rejected the application by Private Fuel Storage in response to overwhelming opposition from concerned Utahns and their state and federal political representatives.

>>SINCE THE 1950's, nuclear power utilities have accumulated stockpiles of nuclear waste at reactor sites seemingly without regard to long-term storage and containment of the dangerous waste they generate. In 1982, facing shortages in storage capacity at reactor sites, the nuclear industry pressed for passage of the Nuclear Waste Policy Act. The law turned responsibility for long-term storage of commercially generated nuclear waste over to the federal government.

In 1987, after a protracted site selection process and much political wrangling, Congress ordered the U.S. Department of Energy to only study Yucca Mountain in Nevada as the nation's permanent repository for high-level nuclear waste. Since then, strong resistance to the plan has sent the federal government and industry looking for 'temporary' storage options.

Along with Yucca Mountain, the Nuclear Waste Policy Act ordered the federal government to develop a temporary storage option called a Monitored Retrievable Storage facility. In the 1990s in the face of mounting delays at the Yucca Mountain facility, the federal government proceeded to establish the temporary storage facility. The government sent out requests for 'letters of interest' to every county and Native American Tribe with hopes of identifying potential sites for the facility. They received very few responses and ultimately identified eight potential sites – three counties and five Tribes. In 1996, after reaching a tentative agreement with the Mescalero Apache Indians of New Mexico, the effort failed after the Tribe formally voted to reject the project.



In granting the license the NRC not only ignored the public, they disregarded warnings by numerous experts of dangerous flaws in the plan.

With storage space and time running out, a consortium of nuclear utility companies decided it couldn't wait for a government solution and formed a limited liability corporation called Private Fuel Storage to develop their own private-sector temporary waste storage site. On May 23, 1997, Private Fuel Storage signed a secret lease agreement with the Skull Valley Band of Goshute Indians (one of the eight candidates from the failed federal selection process) to store 40,000 metric tons of high-level nuclear waste on their reservation in western Utah.

Why had Private Fuel Storage targeted the Skull Valley Goshutes? With only 120 members their status as a small, impoverished, politically weak sovereign nation helped the consortium avoid the accountability of a public decision-making process. Not surprisingly, the lease agreement deeply divided the Tribe. Tribal members never voted on the agreement and only a few ever saw the lease. Newspapers reported widespread allegations of bribery of Tribal members by the consortium. Leon Bear, the Tribal chairman who signed the secret lease agreement was later charged with embezzlement and tax fraud by the U.S. Attorney's Office.

On February 21, 2006, despite opposition by the State of Utah, community groups and members of the Skull Valley Band of Goshutes, the Nuclear Regulatory Commission granted Private Fuel Storage a license to construct and operate their temporary high-level nuclear waste storage facility on the Skull Valley Reservation. In granting the license, they not only ignored the public, they disregarded warnings by numerous experts of dangerous flaws in the plan.

A Flawed and Risky Plan

The plan calls for the transport of 40,000 metric tons of high-level nuclear waste to the Utah desert from reactor sites located almost entirely in states east of the Mississippi River. Over a 20-year period, spent fuel rods would be shipped by rail in 4,000 Holtec dry-cask containers. Freight trains would haul the radioactive cargo through hundreds of rural communities and urban centers and past the homes of 50 million Americans on its way to Utah. In Utah the dry casks would be stored above ground on concrete pads on a 99-acre parcel, guarded by a simple chain link fence and private security guards.

According to Oscar Shirani, a former lead quality assurance inspector at Excelon, there are serious flaws with the Holtec containers: major quality assurance violations, including widespread improper welding, use of shoddy materials and significant departures from the original design that were carried out without proper review or approval. Though a Nuclear Regulatory Commission expert substantiated the allegations, the agency continues to stand behind its safety certification of the Holtec casks.

"Private Fuel Storage is a large corporation targeting our small traditional Native American Reservation for this dangerous project and taking advantage of our sovereignty," said Margene Bullcreek, a resident of the Skull Valley Reservation and long time opponent of the waste storage project. "It's not our responsibility, as traditionalists, to sacrifice our land for the problem of nuclear waste that U.S. companies have created."

GREAT SALT LAKEKEEPER

The proposed storage site is situated directly beneath an active flight path for F-16 fighter jets that perform frequent practice bombing missions with live ordnance en route to the nation's largest inland military Test and Training Range, which is adjacent to Skull Valley. The Air Force conducts more than 4,000 flights over this area each year and also tests cruise missiles at the test site. Private Fuel Storage claims that in the event of a jet crash, no major damage to the dry casks would occur.

Storage Plan Shows Cracks, Loses Momentum

Despite Private Fuel Storage's efforts to circumvent public input, growing opposition efforts are starting to show some success.

The State of Utah continues to appeal recent decisions by the Nuclear Regulatory Commission in court, and has maintained an official policy of opposition to the plan through three successive governors, including current Governor John Huntsman, Jr.

Great Salt Lakekeeper is a member of HEAL Utah, a local coalition of concerned citizens and environmental groups that has provided crucial leadership for the grassroots campaign to oppose Private Fuel Storage in Utah. Great Salt Lakekeeper has submitted written comments and provided testimony at Nuclear Regulatory Commission hearings, participated in rallies, joined the state-sponsored "No Coalition" opposition campaign and helped lobby for the recently created Cedar Mountain Wilderness Area.

In late 2005, led by the efforts of Utah Congressman Rob Bishop, Congress created the 100,000-acre Cedar Mountain Wilderness Area. This was a critical win, blocking construction of a rail spur that would have linked the Skull Valley site to major interstate rail lines.

In 2006, Private Fuel Storage lost support from Xcel Energy and Southern Company, two members who announced withdrawal of financial support for the consortium. But Private Fuel Storage has not thrown in the towel yet. The consortium is seeking approval from the Bureau of Land Management to construct a transfer station on federal land along Interstate 80 west of Salt Lake City where dry casks would be transferred from rail cars to heavy trucks and hauled down a narrow two-lane road to Skull Valley. The Bureau has not indicated when it will decide on the transfer station application.

Nuclear Endgame

With their Nuclear Regulatory Commission license for Skull Valley facility in hand, Private Fuel Storage has shifted into an aggressive and desperate marketing phase to secure contract clients for the site and bring nuclear waste to Utah.

Private Fuel Storage's plan creates unnecessary risks to communities and watersheds across the nation by mobilizing and transporting dangerous radioactive waste that can be stored above ground in dry casks at existing reactor sites as safely as it could at the proposed Skull Valley Reservation in Utah.

Many nuclear utilities are now moving towards increasing onsite storage of nuclear waste. Since 2000, the Nuclear Regulatory Commission has licensed 34 dry cask onsite storage facilities in 25 states and has a goal of licensing 50 or more by 2010.

So is dry cask storage of nuclear waste safe? If it is safe, why would the waste need to be transported at all? And if it isn't safe, then we should address the problem, not simply ship it out west. Maybe the real question is: without any plan for long-term storage, why are we generating this waste at all? **W**

Nuclear Canada's Great Lake Legacy

By Krystyn Tully, Lake Ontario Waterkeeper | Photos by Lake Ontario Waterkeeper

>>**THE NUCLEAR** industry looms large over Lake Ontario. Here, uranium is processed and converted into fuel, fuel bundles for nuclear power plants are made and more than a dozen reactors generate electricity for Canada and the United States. Radioactive waste sites mar our landscape.

"Nuclear power's Great Lake legacy is one of the most difficult challenges I face," says Lake Ontario Waterkeeper Mark Mattson. "Other countries generate nuclear energy, but few have demonstrated the same steadfast devotion as the Ontario and Canadian governments. This is where we subsidize mining, refining, burning and burying to the tune of tens of billions of dollars, where special laws cater to the needs of one industry. This is where we have gambled with the future of one of the world's largest bodies of freshwater. And where we stand, poised to do it all over again."

In 1933, a gold prospector opened the first radium mine in Canada, the second in the world. One decade and ten thousand radioactive ore discoveries later, Canada had emerged as a world leader in nuclear research and development.

In the beginning, the nuclear industry on Lake Ontario was part of wartime efforts like the infamous Manhattan Project. When the war ended, the fledgling nuclear industry stayed behind. After a few years, it began to grow again. Two power plants with a combined total of 12 reactors were built on the north shore of the lake. Waste sites sprung up in residential communities. Ships traveling up and down the St. Lawrence Seaway started carrying radioactive materials through our harbours to far away markets.

"The nuclear industry came here because it needed deep, cool water and access to markets,"

"It's a pretty exciting time, if not scary."

Energy consultant John McNeil on the return of nuclear power

The consolidated radioactive waste heap at Port Hope.

Ontario's Atomic Power Subsidy

$80 BILLION
The total cost of Ontario's new energy plan

$40 BILLION
The amount of money Ontario government plans to invest in new nuclear power

5.5 MILLION
Approximate number of people who live within 100 kilometres of the Pickering and Darlington Nuclear Power Plants

$13.00
Approximate compensation for each victim in the event of a serious accident at one of these plants

19
Number of people paid to lobby Ottawa and Queen's Park on behalf of the nuclear industry (as of June 2006)

Dry spent fuel rod storage casks lined up at the Cameco uranium facility (formerly the El Dorado uranium refinery). Pipe is discharging wastewater from the facility.

says Mark Mattson. "It would never have started without the lake… and it would never have survived without the support of the Canadian government."

By 1990, the nuclear complex had thoroughly colonized Lake Ontario. "The thing that gets me," Mattson continues, "was how unfair it's all been. These guys got away with doing things that no other business could pull off. And they did it by changing the rules."

First to go was the common law. The Nuclear Liability Act of 1976 completely shields suppliers from responsibility for defective products and caps the industry's liability for any nuclear accident at $75 million. (Cleanup of the 1979 meltdown at Three Mile Island, by contrast, cost roughly $1.5 billion.) Because of this law, Canadians have little right to sue if their property is damaged by nuclear accidents, malfunctions or mistakes.

Mattson was part of a team of lawyers that represented the City of Toronto, Energy Probe and other individuals in a constitutional challenge of the Nuclear Liability Act. The lawsuit lasted nearly ten years; in the end, the law was upheld. "That trial was a real blow to the public. The industry said that nuclear energy should be given special treatment, and the court agreed," explains Mattson.

When the constitutional challenge failed, Mattson began spending more time on the water, meeting the communities and tracking pollution. If the public couldn't rely on the common law to protect the environment, he thought quasi-criminal statutes could take its place.

"Unfortunately, every time a radioactive pollutant comes up, the government claims federal jurisdiction and rejects provincial standards. As a result, Ontarians have no enforceable air or water quality standards for nuclear-related contaminants like uranium and tritium in their drinking water or waterways."

The Canadian Nuclear Safety Commission, the industry's regulator, does include some environmental standards in the operating licences it issues. But Mattson argues that it's not the same thing. "Our ability to comment on permit applications is restricted to 10-minute presentations to the Commission every two or five years. And if the Commission decides not to enforce its rules when there is pollution, citizens cannot step in and do it on their own. This is totally different from the way other industries are regulated in Ontario."

What's more, Ontario has shown little interest in halting nuclear pollution over the years. The Pickering and Darlington Nuclear facilities have failed water quality tests every single year since 1998. Cameco Corporation (formerly Eldorado Nuclear in Port Hope) has a similarly poor track record; most years, the company's wastewater discharges are toxic to fish. Despite chronic compliance problems at numerous nuclear facilities, the province never lays charges.

Without the benefits of the common law or statute, the only protection Ontario residents have left is a fair decision-making process. Now, even this is

Seven leaking radioactive waste sites are scattered around Port Hope and Port Granby, containing one million cubic metres of contaminated material from as far back as the 1930s.

under siege. Environmental assessments were once the norm in Ontario. Today, environmental assessments are rare. Industry, politicians and newspaper editors call them inefficient and costly.

"This disinterest in fair and open governing is one of the greatest threats to Ontario's waters today, not to mention democracy," says Mattson.

He offers the Port Hope Project as one example of this policy shift. Seven leaking radioactive waste sites are scattered around Port Hope and Port Granby, containing one million cubic metres of contaminated material from as far back as the 1930s. The Government of Canada finally agreed to consolidate this waste a few years ago, but claims its new dumpsite will be just a "storage facility." It is designed to hold waste for the next 500 years, but calling it a "storage facility" means the project never has to pass a plebiscite or undergo the otherwise mandatory comprehensive environmental assessment. As a result, residents do not get funding, legal assistance or independent scientists to help them through this ten-year, $260-million project approval process.

"The whole point of an environmental assessment is to find the best planners, engineers and scientists. Decide if you need a project in the first place. Then, use your experts to come up with the terms and conditions that will make that project a success. But the government and the nuclear industry don't want that to happen," says Mattson.

The latest assault on the environmental assessment process is the Province of Ontario's new plan to build more nuclear power plants on the Great Lakes. In June, Cabinet passed a new regulation that exempts the province's entire energy plan from the provincial environmental assessment process. The regulation is broad, applying to Ontario's entire energy policy. It is historic, being one of the largest financial undertakings in the province's history. And it is grave, since it compels enormous and simultaneous undertakings – each with the potential for massive environmental impacts.

We know those impacts well. Every town on the north shore of Lake Ontario that was home to the first generation of nuclear facilities has a legacy of pollution to prove it. Eldorado (now Cameco Corporation) left 93,000 cubic metres of radioactive sediments at the bottom of the Port Hope Harbour. The Port Granby radioactive waste site is leaking arsenic, cadmium, uranium and zinc into the lake. The Pickering Nuclear Power Plant has flushed some 2,000 tonnes of toxic metals into Lake Ontario since the 1970s, including tritium from a 1992 spill that contaminated drinking water supplies for hundreds of kilometres. The Darlington Nuclear Power Plant hasn't fared much better; in 1999 alone, the plant's wastewater was lethal to fish 33 different times.

The legacy of contamination on Lake Ontario has made Mattson a vocal critic of Ontario's decision to skip an environmental assessment. "The province is acting like everything is going to be fine. They seem to say, 'We have federal regulators. We have other environmental laws. We don't need provincial environmental assessments anymore.'

As Waterkeeper, I know the truth. The harbours are contaminated. Our drinking water is polluted. This lake is in trouble. The *only* thing we have left is a chance to do better this time. And that's the *one* thing government doesn't want to talk about." W

Clear Thought on Nuclear Power

In March 2006, Britain's Sustainable Development Commission declared that there is no justification for building new nuclear power plants in England, Scotland or Wales. After reviewing what it called "the most comprehensive evidence base available," the Commission found that the costs of nuclear power outweigh the benefits, even in a post-Kyoto Protocol world.

The Commission cited five major disadvantages of nuclear power:

Long-term waste	Cost	Inflexibility	Undermining energy efficiency	International security
» No long-term solutions are yet available, let alone acceptable to the general public; it is impossible to guarantee safety over the long-term disposal of waste.	» The economics of nuclear new-build are highly uncertain. There is little, if any, justification for public subsidy, but if estimated costs escalate, there's a clear risk that the taxpayer will have to pick up the tab.	» Nuclear would lock the UK into a centralized distribution system for the next 50 years, at exactly the time when opportunities for renewable technologies, micro-generation and local distribution networks are stronger than ever.	» A new nuclear programme would give out the wrong signal to consumers and businesses, implying that a major technological fix is all that's required, weakening the urgent action needed on energy efficiency.	» Bringing forward new nuclear power programs makes it more difficult to deny other countries the same technology. With lower safety standards, they run higher risks of accidents, radiation exposure, proliferation and terrorist attacks.

Downwinders

Columbia River Hangs in the Balance of Hanford Cleanup

By Brent Foster, Columbia Riverkeeper

COLUMBIA RIVERKEEPER

DEPARTMENT OF ENERGY

Above right: Map of the Hanford site showing retired nuclear power plants and other nuclear facilities.

Above: Kayaking the White Bluffs section of Hanford Reach.

>>**JUST ABOVE** the Hanford Nuclear Reservation the clear blue waters of the Columbia River wind through the dry eastern Washington sage steppe habitat. The only green is a narrow band of vibrant riparian habitat that lines the 'Great River of the West' as it meanders through one of its last free-flowing sections. Paddling down the Hanford Reach, as this 51-mile stretch of river is known, you can see the perfect salmon spawning gravels ten feet below the surface and caddis flies swarm along the banks. These are the best remaining salmon spawning habitat on the mainstem Columbia.

As one paddles under the Vernita Bridge and enters the Hanford Reservation the Columbia remains perfectly clear. Countless songbirds jump like popcorn in and out of the willows and mulberry bushes lining its banks. White pelicans, coyotes and other wildlife barely notice passing kayakers. Native freshwater mussels, long harvested by Native Americans, still cling to the sculpted river rocks that rolled here from eastern Washington with the great floods that carved the Columbia River at the end of the last ice age.

Closed to the public, and protected from the insatiable dam builders who turned most of the Columbia into slack water lakes, the Hanford Reach offers a rare glimpse into the free-flowing Columbia River of the past. But the Hanford Reach's scenic beauty and abundant fish and wildlife are as deceptive as they are ironic. Traveling by kayak, it does not take long before the first of nine mothballed nuclear reactors comes into sight.

"Hanford is the most contaminated site in North America and one of the most significant long-term threats facing the Columbia River," says Greg deBruler, who has worked on Hanford cleanup issues with Columbia Riverkeeper for almost 20 years. "It's difficult to comprehend the reality of Hanford's 150 square miles of highly contaminated groundwater or its 53 million gallons of high level radioactive waste sitting in 45 year old rotting steel tanks."

Hanford is one of the largest radioactive sites in the world. Given Hanford's importance to the river that is the lifeblood of the Northwest, Columbia Riverkeeper has made the cleanup of the Hanford site one of its highest priorities.

The Impact of Hanford

Starting in the 1940s, Hanford was a key component in the United States' nuclear weapons program and the birthplace of the atomic bomb dropped on Nagasaki. Between 1944 and 1987, plutonium manufacturing at Hanford generated massive levels of radioactive waste, including more than 450 billion gallons of liquid waste that was simply dumped into the ground at various sites on the Hanford Reservation.

More than one million gallons of high-level radioactive waste has contaminated the aquifer that connects to the Columbia. Groundwater plumes of radioactive pollutants such as uranium, strontium and technetium-99 and other toxins ranging from PCBs to trichloroethylene now cover 150 square miles. Radioactive contaminants from Hanford have been deposited all the way down the Columbia to the Pacific Ocean and up and down the Washington and Oregon coast.

Those growing up in Richland, Oregon and other cities near Hanford were regularly tested by government mobile health labs that tracked radiation levels in local school children. Those living downwind from Hanford were joined together by a litany of adverse health effects such as thyroid cancer, which became commonplace in those known as the "Downwinders."

While many people in the Northwest fear the day when Hanford waste leaks into the Columbia, fewer are aware that plumes of uranium, tritium, strontium and other radioactive contaminants are already leaching into the Columbia. The fact that Hanford radioactivity was not only reaching the Columbia but concentrating in plants and fish was highlighted in 1990 when activist Norm Buske sent jars of radioactive mulberry jam to the head of the Department of Energy and Washington's governor. On Columbia Riverkeeper's recent paddle down the Hanford Reach, Greg deBruler pointed out the very mulberry bushes Buske used to make his jam.

"It's not everyday that you can see a bush on the edge of the river and know it's radioactive," says Brett VandeHeuval, an environmental attorney who works with Columbia Riverkeeper and was on his first trip down the Hanford Reach. "You can hear about the contamination at Hanford, but paddling the river really deepens your appreciation of what is at stake here."

Protecting Hanford's Salmon

The importance of the Hanford cleanup to the survival of salmon in the Columbia River is difficult to understate. Columbia Riverkeeper has fought for years to force the Department of Energy to prioritize cleaning up contaminated groundwater that flows into the river. While Columbia Riverkeeper helped successfully push the federal department to use expensive pump and treat technologies to keep chromium out of salmon spawning beds, there are troubling signs that Hanford waste is taking its toll on Columbia River Chinook salmon.

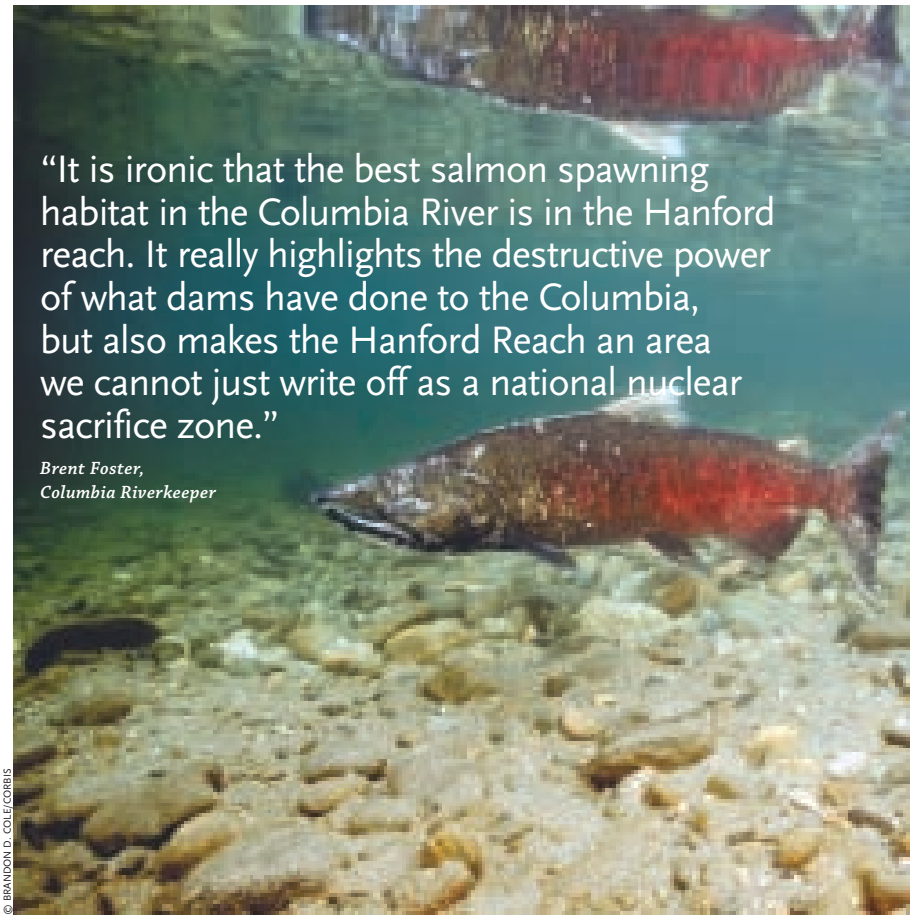
When researchers did genetic testing on Hanford Reach Chinook in 2000, they found that 80 percent of all salmon that appeared to be females were genetically males. Six years later the precise cause of such high levels of sex-reversals has still not been determined, but researchers have identified toxic exposure and high temperatures as likely culprits.

Another study done by the United States Geological Survey and Pacific Northwest National Laboratory found that hexavalent chromium caused genetic damage in 100 percent of exposed juvenile salmon. When the Department of Energy released its report on the study to regional newspapers, however, they claimed the study had found no impacts from chromium on salmon.

The Hanford Reach has become a petri dish for observing the effects of co-mingling the most damaging toxins humans have created.

DEPARTMENT OF ENERGY

One pressing cleanup need is Hanford's 177 underground steel waste tanks that hold what may be the world's most acutely toxic soup of radioactive waste. These tanks have already leaked over one million gallons of high-level radioactive waste, which in some areas has reached the groundwater. (This photo shows tanks under construction before burial.)



"It is ironic that the best salmon spawning habitat in the Columbia River is in the Hanford reach. It really highlights the destructive power of what dams have done to the Columbia, but also makes the Hanford Reach an area we cannot just write off as a national nuclear sacrifice zone."

Brent Foster, Columbia Riverkeeper

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Hanford clearly impacts people in the Northwest, but since the Northwest exports grain, beef and vegetables grown with Columbia River water, Hanford is an issue the whole country should think of as being quite literally on their dinner table.

"It does not take a rocket scientist to realize the threat to salmon from Hanford contaminants is serious, but no one knows exactly what the toxic brew of pollution at Hanford will do to fish," points out deBruler. "The Department of Energy tries to use computer modeling to calculate the cheapest possible cleanup they can get away with, but this is just a huge gamble with the future of Columbia River salmon."

Drinking Water

The City of Richland's 125,000 residents take their drinking water from the Columbia River aquifer just a mile downstream of Hanford's southern boundary. Other cities and communities, including Portland, Oregon, also rely on either the Columbia or its groundwater as a drinking water source.

In planning cleanup actions for Hanford, the Department of Energy continues to fight Washington State law that requires Hanford groundwater to be clean enough for use as drinking water.

"DOE does not want to clean up the groundwater to the level that would be safe to drink, but instead wants to take this water resource away from the people for hundreds or thousands of years," asserts Greg deBruler. "Washington adopted a state cleanup law that is one of the most protective in the county, requiring polluters like the Department of Energy to be fully responsible for the mess they created. But DOE is resisting."

Columbia River Native American tribes, such as the Yakama, Nez Perce, Umatilla and Warm Springs depend on a clean healthy Columbia not only for their sustenance, but also as their spiritual lifeblood. Contaminants from Hanford and elsewhere on the Columbia are contributing to a cancer risk from fish consumption as high as 1 in 50 in some parts of the river – greatly exceeding so-called "acceptable" cancer risks of 1 in a million.

"The safety of Hanford is closely linked to the health of Native Americans in the Columbia Basin," explains Ryan Sudbury with the Nez Perce Tribe. "For tribal members fishing is a way to put food in their children's mouths. The Department of Energy's continued failure to adequately consider the risks to Nez Perce families that eat fish from the Columbia in their cleanup plans is unacceptable."

Dvija Bertish, Chair of the Rosemere Neighborhood Association, which represents a low-income minority neighborhood in downstream Vancouver, Washington, agrees. "The impacts of Hanford pollution fall particularly hard for minorities and low-income people that use the river below Hanford to catch everything from crayfish and bass to pike-minnow and sturgeon," she says. "People who are not fishing for recreation are going to eat what they catch and that means eating the resident fish and predatory fish that have the highest toxicity levels."

The impacts of Hanford contamination are not limited to the Pacific Northwest or those who eat or drink from the Columbia. Major agricultural operations all along the Columbia River withdraw untreated Columbia River water tainted with Hanford waste and apply it to crops or use it to feed farm animals that are sold throughout the world.

Cleanup Cash

Over the last 17 years Columbia Riverkeeper and its predecessor Columbia River United have been

Below right: Low-level commercial nuclear waste stored in a trench at the Hanford Site.

Below left: Hanford workman points his Geiger counter at steel drums full of class A low-level radioactive waste in the trench.

fighting for the cleanup of Hanford waste. Through this work it has become clear that there are two key limitations on an effective, protective cleanup.

First is money. Without federal funding – and lots of it – the daunting task of reversing five decades of contamination will simply not be possible. As a result, Columbia Riverkeeper has been a central part of building the grassroots and political support for Hanford cleanup to make it the best-funded cleanup in the United States. Because of the threat Hanford poses to Washington and Oregon, we have been able to work with allies such as Heart of America Northwest, Hanford Watch and the Government Accountability Project to generate strong bipartisan support within the Northwest Congressional delegation for funding.

But the $2 billion a year Hanford cleanup budget has been a major target of federal budget cutters. In the last year alone funding for the Hanford cleanup has been cut by $340 million, and work at the most contaminated sites at Hanford is just beginning. "Unfortunately there are some in Congress who do not want to keep funding the cleanup and are forcing the Department of Energy to find cheaper and shorter ways of doing cleanup. They are not concerned if this means leaving groundwater contaminated and leaving highly radioactive waste in place," says deBruler.

The second major problem is that the Department of Energy is both the polluter and the entity in charge of cleaning the site. While it may seem fair that they should clean up their own mess, the assumption that the agency has the skills and interest to clean up the largest toxic mess in North America may be unrealistic.

Unprotective Cleanup Goals

The Department of Energy's solution for trimming cleanup budgets at Hanford (and around the country) has been to lower cleanup standards. One of the clearest examples of this was the agency's decision not to clean up uranium contamination in groundwater immediately adjacent to the Columbia River at what the agency calls the "300 Area."

In deciding on a cleanup plan for the 300 Area groundwater, the agency adopted a strategy it called "Monitored Natural Attenuation" – classic Orwellian speak meaning the agency will essentially do nothing except monitor the uranium pollution as it "naturally" breaks down to safe levels (a process that will take a while given uranium's 4.5 billion year half-life).

After significant pressure, Columbia Riverkeeper successfully pushed the federal government to adopt a more protective, albeit still insufficient, cleanup standard for 300 Area groundwater. Columbia Riverkeeper continues to push the Department of Energy to reconsider its Monitored Natural Attenuation strategy in light of the studies that confirmed that uranium was leaching into the 300 Area and concentrating in shellfish.

"The U.S. has over 100 of the most severelly nuclear waste contaminated sites in the world," says deBruler who recently authored a study of cleanup failures at nuclear sites across the United States. "These sites could impact life for hundreds and in some cases thousands of years if we do not actively clean them up now, but the Department of Energy's main goal now is to spend as little as possible and declare the cleanup complete."

The Push to Import More Waste

As if the cleanup challenges at Hanford were not great enough, the Bush administration has pushed hard to bring an additional 70,000 truckloads of new radioactive waste to Hanford. Given the slow cleanup progress of the existing problem, plans to add more waste to Hanford have been described as an effort to make Hanford the national sacrifice zone.

In 2002, while the Department of Energy was preparing an environmental impact statement on the plan, the agency announced it would begin shipping new waste to Hanford from sites in Ohio and California. Columbia Riverkeeper filed suit against the agency's gross violations of the National Environmental Policy Act. Along with another legal challenge filed by the State of Washington, Columbia Riverkeeper's suit used the government's internal documents to prove that the agency was planning the initial waste shipments to open the door to allowing an additional 70,000 truckloads of radioactive waste.

Just days before trucks were set to start importing new waste to Hanford, Columbia Riverkeeper and co-plaintiffs won an injunction. With the help of a new legal challenge by the State of Washington, radioactive shipments to Hanford are enjoined today and the federal government has been forced to prepare the first ever comprehensive risk assessment of its overall operations at Hanford.

The planned shipments have galvanized large-scale public opposition to the Department of Energy's plan and inspired a ballot measure prohibiting the transfer of radioactive waste to Hanford until cleanup is complete. Unfortunately, the measure did not stand up in the courts. But the fact that more than 70 percent of voters voted in its favor highlights the public's strong support for a Hanford cleanup.

"While the challenges ahead for Hanford will be significant, it is an active, vocal, demanding public that will hold the polluters feet to the fire," says deBruler. "If we lose this battle, we the people have failed in being good stewards, and future generations will suffer because we failed to do the right thing." **W**

See "U.S. DOE Clean Up or Cover Up? A Four Site Comparative Analysis" (2005) at http://www.columbiariverkeeper.org

Nuclear Legacy, Nuclear Future on the Savannah

By Frank Carl, Savannah Riverkeeper

STEPHEN BEREND/SAVANNAH MORNING NEWS

Approaching Vogtle and Savannah River Site by boat from upriver, the homes scattered on the bluffs overlooking the river become fewer and fewer until you almost convince yourself that you are among the early fur traders plying the interior of the continent for the first time. But then you spot huge clouds of water vapor rising in the distance. Several more bends in the river, and you are confronted by two giant 500-foot cooling towers jutting into the skyline, belching out clouds of steam.

>>**THE HEADWATERS** of the Savannah River arise in the escarpments of the Blue Ridge Mountains forming waterfalls and whitewater streams. The Savannah and its tributaries, the Tugaloo and Chattooga Rivers form the entire 350-mile boundary between South Carolina and Georgia, draining 10,000 square miles from the Blue Ridge through the piedmont to the coastal plain of the south Atlantic coast.

It is in the coastal plain between Augusta and Savannah the lazy meandering river passes between the Savannah River Site, a former nuclear weapons production facility and current nuclear weapons maintenance facility, and Plant Vogtle, a nuclear power plant. These facilities expose the Savannah to one of the highest nuclear risks in the country. These two facilities also represent a compendium of the risks we face from our atomic past, present and, unfortunately, future.

Releases from Savannah River Site (SRS) and Vogtle have made the lower Savannah River the most tritium-contaminated environment in the U.S. But Georgia Power, owner and operator of Vogtle facility, wants to expand. They have already begun to acquire the necessary prerequisites from the Nuclear Regulatory Commission to build two more reactors on the site.

But it is storage of radioactive waste at SRS and Vogtle that creates the greatest current risk to the river. Plant Vogtle stores spent fuel rods. With no place to send the waste, it remains on site where it is likely to stay for the foreseeable future—a problem for the Savannah River and every other river with a nuclear power plant on it.

The inability of the nuclear industry or the government to effectively deal with the nuclear waste issue for the last 60 years is a key factor in the lack of growth of nuclear power. Legal and technical challenges to the federal government's Yucca Mountain Repository may prevent it from ever accepting the nuclear industry's nuclear waste. It would behoove nuclear utilities to build their local waste storage facilities to last, possibly for centuries, because the waste may remain in their backyards. Presently, Vogtle stores its spent fuel rods in subterranean cooling chambers that have not yet reached capacity because Vogtle is one of the last nuclear plants built. Both reactors were completed well after the accident at Three Mile Island in 1979.

When it comes to nuclear waste, however, the Savannah River Site (SRS) makes the nuclear power plants look like amateurs. SRS wins the gold medal for having the most radioactivity of any nuclear weapons facility in the nation and the silver medal in terms of sheer volume of nuclear waste (second only to Hanford in Washington state). SRS, which started operation in 1952, carves 310 square miles out of the South Carolina countryside. In the rush to beat the Soviets in the nuclear arms race, safety and environmental stewardship were sacrificed for speed. Fifty steel tanks hold up to a million gallons of waste each – a mixture of liquid and sludge. Direct exposure would be immediately lethal. SRS reports leaks in primary containment in at least six of these tanks.

As the Department of Energy readies the waste for 'permanent' disposal, they are playing musical tanks with 34 million gallons of radioactive waste. The liquid waste is pumped in and out of the tanks in a process that prepares the sludge for vitrification. Vitrification is the process in which radioactive sludge is mixed with glass, melted and poured into steel canisters for permanent storage as steel encased glass logs.

Vitrification of the waste, however, is an incomplete solution. Before waste can be vitrified substances must be removed that would inhibit the formation of a strong glass product. Solvents used in the extraction process increase the total volume

of waste so that there is little, if any, reduction in volume and therefore little, if any, progress in emptying the tanks.

While the vitrification process prepares the sludge portion of the waste for safer long-term storage, the remaining liquid waste (around 40 percent of the total) requires a safe mechanism for disposal. The Department of Energy's current solution is to evaporate water in the liquid waste into the atmosphere – reducing and concentrating the waste. But this approach is limited by the presence of tritium (radioactive hydrogen) in the solution. Because the tritium evaporates with the water, it quickly exceeds the air release limit for radioactivity. Their plan is to wait until the radioactivity decreases. Tritium's half-life is 12.3 years. Consequently, in 12.3 years they will be able to evaporate twice as much, or in 123 years 10 times as much. Sometime in the next century they will begin to make real progress in reducing the volumes in the tanks.

The Department of Energy is also researching ways to remove uranium, plutonium, thorium, americium and cesium from the liquid. If this system works (a big if), these toxins can be added to the vitrification process. The government would then press to dispose of the remaining liquid as low-level nuclear waste. The one certainty in this process is that there is no definitive procedure for dealing with this deadly waste. Congress, though, seems willing to help despite risks to public health. It has already approved a redefinition of low-level radioactive waste making it more inclusive, i.e. less safe.

But the tanks are only part of the problem. The old Radioactive Waste Burial Ground best represents the damage that the initial rush to nuclear superiority created. The old burial ground is an unlined pit over a mile long and 500 yards wide used to bury tritium, organic solvents, heavy metals and sundry other wastes from 1952 until it was closed in 1974. Little care was taken in packaging the waste, often using only a cardboard box or no container at all. Unfortunately, but not surprisingly, those wastes have come back to haunt us. Waste plumes have formed on all four corners of the burial ground. Tritium forms the leading edge of three of the plumes, because it gets incorporated into the water molecule. But surprisingly close behind is trichloroethylene, a degreasing solvent that was used in large volumes. Whether the 50 tons of lead, the 12 tons of mercury and the 3,500 pounds of cadmium buried here will stay in place is anybody's guess.

The tritium from the southwest plume reached Four Mile Creek about eight years ago. To keep the tritium out of the surface waters the Department of Energy built an underground dam to block the flow of the plume. The water from the surface pond that resulted from the blockage of the groundwater flow is sprayed back onto the trees on the property.

Warning Sign

On the north bank of the river in South Carolina, planted about every quarter mile for 19 miles are large yellow signs; "No Trespassing, By Order of the United States Department of Energy." Most have bullet holes indicating local resistance to the restriction. Most of the riverfront is dominated by swamp with more than a few alligators and feral hogs to dampen the ardor of the would-be trespasser.

SAVANNAH RIVERKEEPER

This is the Department of Energy's wind and time approach to address the problem – spraying keeps radioactivity and the organic solvents on site a little longer and it allowing the toxins to evaporate and be carried away by the breezes.

The worst news from SRS may not be the legacy of contaminants but the future plans. Congress has approved the construction of a mixed-oxide (MOX) fuel production plant for SRS. MOX fuel is a mixture of uranium-oxide (current fuel for most civilian U.S. nuclear power plants) and plutonium oxide. The plutonium oxide would come from stockpiles of weapons grade plutonium from dismantled nuclear bombs.

SRS could become the host to more than 50 metric tons of plutonium. Plutonium is not a very dangerous radioactive element to be close to. A piece of paper can protect you from all but the most concentrated radiation emitted from plutonium buttons (as they are called). However, ingestion or inhalation of plutonium turns it into one of the most potent toxins known to mankind. And with a half-life of 24,000 years, the risks to their drinking water from a plutonium accident makes the people of Savannah, Hilton Head and Beaufort a little nervous.

For those who see only the dollars from the federal government, the MOX plant and the new Vogtle reactors are an economic gift. To others, the concentration of unstable and extremely toxic radioactive elements upstream of their drinking water supply is a nightmare. **W**

The one certainty in this process is that there is no definitive procedure for dealing with this deadly waste.

The Nuclear Waste Conundrum

50,000 Tons without a Home

By Lisa Rainwater, Riverkeeper

>>**THE INDUSTRY** and federal government have yet to come up with a viable plan to secure the 50,000 tons of commercial spent fuel that is building up across America. As rumors of a nuclear renaissance continue to percolate throughout the halls of Congress, in corporate boardrooms and across the pages of newspapers, politicians and nuclear barons must come up with a plan for not only existing waste, but for the waste of their 'pending' next generation plants. Meanwhile, radioactive rods from reactor cores continue to be dropped into overstuffed spent fuel pools, many of which are now leaking radioactive poisons.

There are three plans on the table, all of them controversial in their own right.

Plan One: Yucca Mountain

The original plan – to bury it deep in a Nevada mountain – has been delayed for decades. The Department of Energy's plan is to bury the nation's nuclear waste in Yucca Mountain – sacred Shoshone land approximately 100 miles from Las Vegas. But the Yucca Mountain repository faces many serious hurdles. The site has been found to be prone to seismic activities and is marred with geological problems that could allow nuclear waste to escape the site. In 2005, news broke that U.S. Geological Survey hydrologists working on water infiltration issues at Yucca Mountain had falsified data results. The plan faces growing public opposition, including lawsuits by Tribes and government bodies, and bipartisan legislation by western Congress members. Despite the Department of Energy's recent announcement that Yucca Mountain will open by 2017, many experts have concluded that the site will never open.

...politicians and nuclear barons must come up with a plan for not only existing waste, but for the waste of their 'pending' next generation plants.

Dry cask storage units at the James A. Fitzpatrick nuclear power plant in Scriba, NY.

(AP PHOTO/HOLTEC INTERNATIONAL)

Plan Two: Onsite Dry Cask Storage

A second plan for the nuclear waste conundrum involves storing the spent fuel rods in dry casks on site at nuclear plants across the country. While environmental groups are, in general, supportive of dry cask storage, they argue that casks should not be stored above ground in close proximity to one another. They have proposed safety and security measures such as Beamhenge (an intricate batting cage-like system that would shield the casks from attack) and onsite dispersal of casks in earthen berms, but so far the proposals have been rejected by the Nuclear Regulatory Commission.

Plan Three: Reprocessing Nuclear Waste

Though England, France and Japan have been reprocessing their waste for decades, President Jimmy Carter banned the reprocessing of spent fuel – which creates weapons-grade plutonium as a byproduct – in the U.S., out of concern over nuclear proliferation. But now, even with the U.S. in the throes of a global war on terrorism, President Bush and key U.S. Senators, including Senator Pete V. Domenici of New Mexico, are pushing hard not only to bring reprocessing back to the U.S., but to the global marketplace as well.

President Bush has earmarked $250 million in his 2007 budget for a new program – Global Nuclear Energy Partnership – to set up a global network of nuclear fuel exchanges, whereby the United States and Russia would accept shipments of high-level nuclear waste from other nuclear countries, reprocess it at commercial facilities and then resell the plutonium-enriched fuel back to countries to feed their nuclear reactors.

Bush contends that the plan is actually "promoting non-proliferation," but many scientists are critical of his proposal. The Federation of American Scientists (FAS), formed in 1945 by nuclear scientists from the Manhattan Project, issued a statement in May 2006 challenging the federal government's assertions: "FAS agrees that proliferation is a grave threat but the Global Nuclear Energy Partnership will not solve any proliferation problems and will make some worse." W

»the way FORWARD

»IT IS the reality, not the promise, of nuclear power that makes it an unacceptable source of energy. Nuclear reactors leak, and they generate highly dangerous waste that must be kept isolated from the environment for 300,000 years. The radioactive waste from these plants puts our waterways, drinking water sources and communities at immense risk. Yet the nuclear industry enjoys massive subsidies, federal bailouts (what other industry can simply turn over its waste to the government?) and legal loopholes that allow them to hide leaks and avoid liability. There is no reason nuclear power should be allowed to avoid the disciplines of the free market, no reason it should exist outside the realm of democratic governance.

Waterkeeper Alliance shares the optimism of nuclear proponents who say that human ingenuity will ultimately solve our nuclear waste conundrum. But we believe that our ingenuity, and our money, is being badly allocated when the federal government subsidizes research and development of nuclear energy at $145 billion over the past 50 years versus $5 billion for renewable energy sources. No wonder nuclear is ahead.

Nuclear power currently generates 20 percent of U.S. and 15 percent of Canada's electricity. But renewable, sustainable energy sources and efficiency have never been pursued with the same commitment as commercializing atomic power. The argument that we can never meet our energy demands without nuclear energy is cynical and shortsighted. With our capacity for innovation, nuclear energy is simply unnecessary. W

Reenergizing the 21st Century

By Lisa Rainwater, Riverkeeper

>>ACCESS TO relatively cheap, reliable energy has given us some of the most important advances in all humankind, but it has come with a high price: global warming, geopolitical instability and radioactive waste and leaks.

We now face a severe energy crisis. How we respond will be the single defining question of our times. We can continue to feed our voracious appetite for energy with new, dirty power plants. Or we can choose to generate and use energy wisely – eliminate our reliance on dirty energy by switching to renewable energy sources and conserve energy so it goes further, does more.

A sound energy plan that phases out dirty power already viable renewable energy sector and ensure taht future generations won't be plagued with polluted air and water, decimated fish populations and additional tons of deadly radioactive waste.

There are many alternatives to large-scale, dirty forms of energy production. Wind, solar, biomass and geothermal are safe, reliable and viable technologies that can be implemented today. These technologies greatly reduce the need for large, wasteful transmission lines since they can often be sited in close proximity to where energy is needed most.

Unfortunately, with the passage of the Energy Policy Act of 2005, Congress missed the opportunity to incorporate the innovation and progress on renewable energy technologies of recent years. As the Union of Concerned Scientists noted, "Congress chose to largely follow the path of a 19th century fossil fuel past instead of crafting an energy bill for the 21st century that would lead us to a clean energy future." If there had ever been a time when the energy future of America could have been led down a new, clean, secure path, it was 2005. Instead, the $12.3 billion energy bill maintains the status quo – providing huge tax breaks and financial incentives to fossil fuel and nuclear energy producers already reaping all-time high profits. It does little to reduce our dependence on foreign oil, fails to address global warming and provides paltry incentives for renewable energy.

But that doesn't mean we should give up hope. Across the country people are starting to talk – and act. People who have never thought about energy are talking about wind farms and solar panels. Farmers have begun to lease small parcels of land for clean, renewable wind turbines; homeowners are cashing in on state rebates for solar panels faster than states can fill the orders. People who have never considered themselves 'environmentalists' are talking about the impacts of global warming. Consumers are trading in their gas-guzzling automobiles for hybrids and fuel-efficient vehicles. People who have never thought about where their energy comes from are talking to their electricity providers and demanding 'renewable-only' energy options. And they're purchasing it when available.

The time is right for change – big change.

"People who have never thought about where their energy comes from are talking to their electricity providers and demanding 'renewable-only' energy options."

Smart Energy Production

One piece of the energy puzzle is how we produce energy. The federal government may have opted to continue subsidizing the coal and nuclear industries, but states, counties and towns have the ability to step in and promote renewable energy production. Financial incentives, long-term purchase power agreements, solar rebates for residential and commercial properties and real net-metering (paying local, sustainable electricity producers credit for electricity they put into the electrical grid) are but a few means with which to encourage safer and cleaner alternatives to the current forms of energy production.

Failure of the federal government to address critical energy issues has led more than twenty U.S. states to implement their own renewable energy standards. In 2003, New York State set a goal for 25 percent renewable sources for the state's energy demand by 2013. The benefits of this ten year effort will be enormous, flooding the market with up to 43,000 new high-paying jobs, generating revenue for farmers, reducing public health care costs, jump-starting in-state investments, broadening the tax base, diminishing pollution and stabilizing energy prices for consumers. In August, California passed a law allocating $3.2 billion in rebates to encourage homeowners and builders to install one million new solar roofs. And in September California again made history in enacting the most comprehensive plan to address global warming: a twenty-five percent reduction of greenhouse has emissions by 2020.

Smart Energy Use

The other piece of the energy puzzle is how we use energy. This piece lies in the hands of citizens, because all the windmills in the world won't negate the social and economic costs associated with energy if we continue to increase consumption of energy at the current rate. Energy efficiency and energy conservation measures are key to reducing the need for large power plants.

There is no better time than now to consider how we use energy on a daily basis and to improve our practices accordingly. If we all do our part, small changes at home and at work can bring huge payoffs – economically and environmentally.

The future is ours to create. We must wean ourselves from energy sources that are unsafe, pose security risks, damage our environment and contribute to global warming. Our elected officials need to know that as individuals, we are willing to change our energy behaviors—even in the smallest ways—to reduce our energy demands, and we expect them—our representatives—to ensure that renewable tecnologies are adequate to meet the energy needs of the 21st century. W

Smart Energy Use

INCREASE EFFICIENCY

» **Buy and/or replace appliances and technological equipment with Energy Star products.** These items use less energy while performing the same functions. The government even offers tax rebates on some Energy Star purchases (www.energystar.gov).

» **Replace incandescent light bulbs with compact fluorescent bulbs.** The bulbs may cost a bit more, but they last up to five years and reduce your energy bill significantly.

» **Spring clean year round.** Keeping the vents on your appliances free of dust and debris enables them to run more efficiently, requiring less energy to keep your food cold and wash your clothes.

» **Install a low-flow showerhead.** You won't feel the difference in the shower, but your water heater won't have to work as hard to keep large volumes of water hot.

CONSERVE ENERGY

» **Turn up your thermostat.** By setting your air conditioner or central air two degrees higher than your current setting, you greatly reduce your energy use without sweating during those hot summer days.

» **Keep doors and windows closed when using air conditioning.** Businesses, in particular, often prop doors open to lure customers in during hot days. If you see a business cooling the outdoors, ask to see the manager and explain the importance of Smart Energy use.

» **Think before you use an appliance.** Hang cloths to dry, hand wash dishes and decide what you want before you open the refrigerator door.

» **Unplug energy vampires, when not needed.** The convenience of modern day life brings with it a mountain of tiny gadgets that need to be charged. The charger continues to draw energy, even if the device is not plugged in. (This also applies to television sets, cable boxes, computers and other common equipment found in the modern home.)

» **Install a smart metering device to monitor your energy use.** Smart meters show the consumer when energy demand is high and low. Keeping track of fluctuations not only tells you when its best to run major appliances but also reduces strains on the grid.

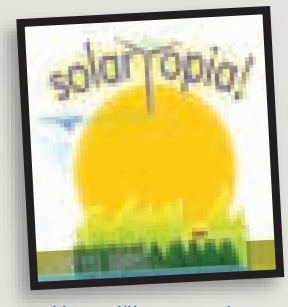
Solartopia!

Our Green-Powered Earth: Circa A.D. 2030

By Harvey Wasserman

Climb aboard our sleek, quiet, supremely comfortable hydrogen-powered "Hairliner" as we fly halfway around an Earth of A.D. 2030 that has mastered the problems of energy and the environment. Beneath us we see a post-industrial world booming with the wealth and harmony of a revolution in green power, one brewing since 1952, but finally in place:

Solartopia [so-lar-to-pi-a]: A futuristic vision of a society based on natural, renewable energy, primarily from the sun and including power not only from direct sunlight, but also from windmills, hydroelectric dams, energy crops, such as switchgrass and hemp and other natural sources. Usable energy is carried primarily by hydrogen, especially in the transportation system and by electricity and bio-mass.



Harvey Wasserman is one of the world's leading advocates of renewable energy. His latest book, SOLARTOPIA, describes the world in the post-fossil fuel/nuke era.

King C.O.N.G.

In the 20th Century – the Age of Nukes and Oil – the natural secrets and intellectual alchemy that gave Solartopia its improbable birth were dismissed with skepticism and scorn. There were "insurmountable" technical problems. There were political barriers. There were investments to protect.

Ultimately, it took the life-threatening horrors of what we now call "King C.O.N.G." – Coal, Oil, Nukes and Gas – to force the issue. CONG was an ungodly cabal of desert sheiks, corporate sharks, military madmen and religious fanatics. Together they coated the planet with a slick glaze of petro and radioactive pollution.

Bit by bit, it dawned on our species that something had to be done. And that going green rather than dropping dead just might be good business.

Few dared to guess how thorough and revolutionary the change would be. But that's the nature of 21st century technology. To ask someone prior to 2010 to assess the prospects for the green-powered world of 2030 would be like asking someone prior to 1980 to describe the Internet and the world of the personal computer.

The energy giants dismissed it all with searing contempt. In public, they made the occasional public grovel toward a renewable future, even touting solar energy and hybrid cars. It was a cynical show, meant to deflect the unease of an increasingly alarmed populace. These "pro-solar" announcements were always accompanied by shocking budget cuts and cynical backstabbing.

In reality, the CONG P.R. machine spun renewables as expensive and unnecessary.

Time has proved the opposite. Our epic struggle for human survival in the new millennium has shown green power to be the essential least cost alternative.

Solartopia, said the barons of CONG, was nothing but a dream, seductive but irrelevant.

In fact, it was subversive and inevitable.

Our Brave Renewable World

This morning our huge hybrid sails through the pollution-free air above Scandinavia. It's not entirely soundless. But our clean green fuel team moves this sunfeathered bird far more quietly than the filthy kerosene-fired flying fossils of the 20th century.

Those mega-polluters have all been scrapped, every piece of them recycled beyond recognition. The ultra-light bio-plane in which we fly was yesterday's engineering impossibility. Its hyper-efficient alchemical mix of organic bio-fuels, hydrogen boosters and photovoltaic electricity was long ago dismissed by the petro-polluters as "voodoo physics."

But a surprise here… a breakthrough there… and… the "impossible" vision of 2001's "solar fools" is AD 2030's high flying cash cow.

Green Hydrogen and its Partners

As renewable technologies leaped ahead, green hydrogen hit its early critical mass – but not alone.

A new global distribution net evolved in tandem with a radically revamped electric grid. Production jumped ahead again and again. The compression, storage and distribution efficiencies surrounding hydrogen soared alongside electrical superconductivity and the power of bio-fuels. Peppered with dips and turns, mutations and transformations, the Age of Hydrogen managed to surpass even the most breathlessly unrealistic hype that greeted its millennial dawn.

In today's Solartopian world, all our public transport, all ships at sea, the buses, trolleys, trains and even the few remaining private automobiles – they all move with hydrogen. In part.

But only in part. Despite its immense potential, hydrogen cannot single-handedly power the hyper-complex, thoroughly integrated post-pollution machine on which our global billions rely.

After hydrogen's 15 minutes of ultra-hype, when reality set in, the scions of Solartopia turned to complementary sources. Each has its limitations, each has its role to play.

Like bio-fuels.

Corn-generated ethanol and soy-based diesel fuels showed great promise at the turn of the century. They are critical pieces of Solartopia's energy pie. But they are no more a magic bullet than hydrogen.

Trains, trolleys, cars and bio-planes like the one in which we now fly have shifted to ever-lighter,

ever-stronger solarized materials. Nearly all today's vehicles are coated with photovoltaic (PV) veneer. The PV that make up these veneers started out as rigid silicon-based cells that convert sunlight to electricity. There are still billions of such cells in use.

But as Solartopia took off, new PV materials found their way into window glass and roofing shingles, house paint and finishing materials.

Today there is hardly an exposed surface on any Solartopian building or vehicle that does not somehow generate electricity. They trickle out a small but critical stream of electrons.

Waste Not, Want Not

Sexy as all those new fuels have seemed, it was the revolution in efficiency that laid Solartopia's sustainable foundation.

In the Twilight of Nukes and Oil, the west wasted fully half the juice it produced. In their primitive, pre-Solartopian incarnations, China and India – today's true monster economies – were worst of all.

Back then, the gap still loomed between Solartopian production projections and daily here-and-now consumption. Hydrogen, bio-fuels, solar/wind, tidal, geothermal… they all gathered momentum. But first and foremost, we all had to "face the waste."

Super-efficient Light Emitting Diode (L.E.D.) lighting, super-compact fluorescents, ultra-light composites, mega-efficient machines, totally tight solar building designs – they all helped Solartopia make organic lemonade out of some very dubious lemons. They squeezed the waste out of an obsolete Bush League energy economy.

Super-conducting, mag-lev and other "breakthrough" nega-watt technologies excited the new century. They took efficiency to breathtaking new levels as they morphed and multiplied in scope and power. Like the desperate return of the crippled 1969 Apollo 13 moon shot, where every electron had to be preserved, our Spaceship Earth learned that survival could only come with zero tolerance for waste of any kind.

Today, nothing – NOTHING! – on Earth is manufactured that cannot be totally and entirely recycled or composted.

The trash that once defiled our streets and highways has long since disappeared. The waste that poisoned our global economy is today unimaginable. The endless, deathly linear consumption that threatened to end human life on earth is yesterday's nightmare. **W**

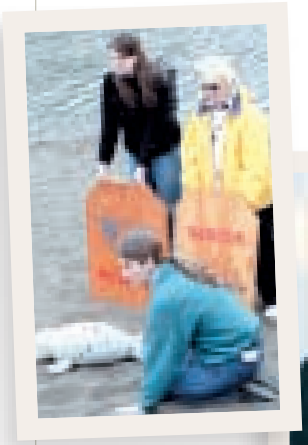
Helios, NASA's solar powered experimental plane set a world altitude record for propeller-driven aircraft of almost 97,000 feet.

NASA

8th Annual

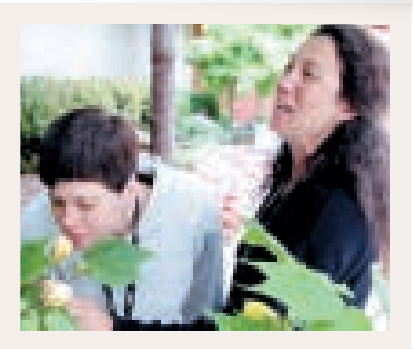
WATERKEEPER ALLIANCE Conference

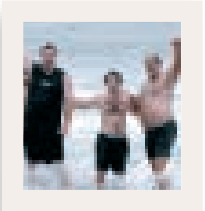
This June, 150 Waterkeepers, plus journalists, public officials, supporters and volunteers assembled for the eighth annual Waterkeeper Alliance Conference in San Francisco, California. Each year, Waterkeepers from six continents gather to exchange strategy and know-how through intensive workshops, regional meetings and panel discussions. Hosted by Baykeeper, this year's conference marked Waterkeeper Alliance's most sustainable conference yet; Waterkeepers wined and dined on biodegradable tableware, boarded hydrogen buses and hybrid cars, ate plenty of delicious and sustainable food and offset their travel emissions through generous donations to alternative energy projects.



"I'm proud to be associated with people who realize that water is precious and that it has no price, who recognize that pollution is a form of theft, and who are willing to pay a personal price to defend their waterways."

LEO O'BRIEN, EXECUTIVE DIRECTOR, BAYKEEPER





"Waterkeepers have taught me what public interest is really about; what putting the waterway first is all about; that the environment is more important than money; that the environment is more important than anything else. They taught me that you shouldn't be afraid to insult your neighbor, because if you are afraid of insulting your neighbor, you'll probably just end up insulting your children."

STEVE FLEISCHLI, EXECUTIVE DIRECTOR, WATERKEEPER ALLIANCE

"Ever since I was young, I have been moved to action by stories of people who live in conditions where the water is so polluted that it is unhealthy for them to drink that water. It really angered me to think that a basic right that was so fundamental, like clean water, was unavailable to so many people in this world. And then I grew up and I learned that these kinds of environmental problems were happening in my own community."

SEJAL CHOKSI, SAN FRANCISCO BAYKEEPER


WATERKEEPER #2
FOR A FLYING MAN YOU SURE KNOW HOW TO KEEP A HUMAN WAITING!
MY APOLOGIES — IN THE FIRST MONTH I HAVE BEEN FROM POLAR BEARS FROM MELTING GLACIERS.
HUMANITY'S TREATMENT OF THE EARTH OVERWHELMS ME.
YEAH, WELL, WE'RE NOT ALL LIKE THAT.
WHY HAVE YOU CALLED ME HERE, COLLECTIVE SHAMAN?
DEEPER THAN YOU DO, MERMAIDS, TRIPS ME SHOULD BE WARNING THE FARMERS OF CLEAN WATER!
KEEP YOUR INSTINCT ON CANNONS — I CHARTED THIS COURSE TO COLLECT EVIDENCE AGAINST THE CORPORATION THAT DISCHARGED ALL THOSE CHEMICALS AND SLUDGE INTO THE BAY LAST WEEK.
WITH SOLID PROOF, WE CAN MOUNT A CASE THAT WILL TWIST IN A COURT OF LAW.
WHAT IS IT WITH YOU AND CAPITAL PUNISHMENT, MAVERICK?
IT COME FROM A DIFFERENT EPOCH — A TIME WHEN ANCIENT BEINGS CARED FOR THE WORLD.
ONE OF THOSE THE ALL-FATHER TOOK ME FROM MY FAMILY, ANCHORED ME FOR A DEATH DESTINY.
IT WOULD BE CALLED CANNONS THE CORRUPTER: SLAUGHTER OF WATER, THE LIFE-BLOOD OF THE EARTH.
FROM POSEIDON TEMPLE ATOP THE ACROPOLIS, I STOOD WATCH OVER THE AEGEAN SEA.
—AND WHEN THE HUMAN HORDES POLLUTED MY WATERS WITH THEIR WAR AND DEFILE, MY PUNISHMENT WAS CAPITAL MERCY.
NOW I WAS ANCHORED AFTER ALL THESE EONS TO FIND THAT IT IS ONLY WORSE.
Story Jeff Gomez Art Savark Dicupé Editor Eddie Scher
Production Starlight Runner Entertainment


WATERKEEPERS WORLD COMMUNITIES REFOUND THE WORLD, CONTAINING YOUR WORK!
I'M LAST MEMORY OF MY MOM WAS ON THE BEACH AT CONEY ISLAND BUT THAT WAS TROUBLED. I GREW UP TO BE A TRUE WORLD AFTER I GOT OUT OF THE SYSTEM --
--BUT I NEVER FORGOT THAT BEAUTIFUL TURQUOISE WATER.
I THINK WE HAVE FOUND YOUR SYMBIOTE.
TO BE CONTINUED...

STORMWATER TAKES CENTER STAGE AT StormCon 2006

By Janelle Robbins, Waterkeeper Alliance

StormCon is an annual event, hosted by Forester Communications.

This July, more than 1,000 water protection experts descended on dry and dusty Denver, Colorado for StormCon 2006, a four day conference all about, ironically, stormwater.

Why all the fuss? Stormwater is the single largest source of water pollution in the U.S.

Under natural conditions, most rainfall or snowmelt is absorbed into the ground where it recharges groundwater aquifers, providing drinking water and consistent flow for streams and rivers. Stormwater is rain that falls on hard surfaces, is collected in gutters and stormwater drains and is released through pipes directly into waterways. Stormwater coursing over roads and parking lots picks up gasoline, motor oil, salt and deicing agents and heavy metals. Stormwater running through suburban neighborhoods picks up sediment, lawn chemicals, yard debris, pet waste and litter. Agricultural stormwater can contain pesticides, fertilizers and manure pathogens. Construction sites alone lose nearly 100 million tons of sediment in stormwater each year, smothering aquatic life.

Stormwater pollution destroys aquatic habitats and poisons drinking water supplies, resulting in drinking water advisories and beach closures. High levels of nutrients in stormwater from fertilizer and animal waste cause anoxic deadzones and speed eutrophication, the death of a waterbody. Rushing stormwater erodes and scours rivers and streams, clogs outlets with sediment, increases flooding and smothers aquatic organisms.

The federal government first began regulating stormwater from cities and large industries in 1990. In 1999, those regulations began targeting smaller municipalities and construction sites. Knowledge about stormwater pollution and prevention has increased considerably in the past 16 years. StormCon provides a forum to learn about the latest research and newest technologies, and allows stormwater managers to share their experiences and increase the level of expertise in this young field.

At StormCon's bustling marketplace, solutions to stormwater pollution were presented by 155 vendors. Technologies ranged from the elegantly simple to intricate products where pollution prevention occurs on the microscopic level.

Some of the most promising approaches support low impact development. Traditional stormwater management relies on collecting, conveying and storing stormwater for eventual treatment and discharge. Low impact development's goal is to stop pollution before it starts by promoting infiltration into groundwater, evaporation or rainwater reuse. Low impact development can be as simple as using permeable pavement or porous pavers instead of asphalt or concrete for roads, driveways and sidewalks. While asphalt is completely impermeable, permeable pavement can infiltrate up to seven inches of rain per hour.

New this year were companies offering third-party verification of the effectiveness of stormwater pollution prevention products. In a relatively new field such as stormwater abatement, time tested products simply aren't available, and it can be frustrating and costly to distinguish products that work from the snake oil.

Stormwater pollution is a pervasive, yet entirely solvable, water pollution problem. StormCon 2006 provides the needed central event for the stormwater community to fuel progress towards permanently stopping stormwater pollution. W

products that keep beaches open and improve nation-wide stormwater quality

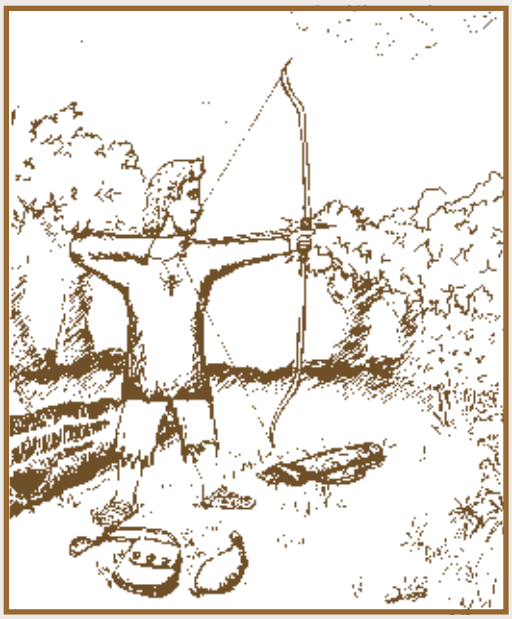
for more information contact AbTech Industries at 1.800.545.8999 or visit www.abtechindustries.com

AbTech INDUSTRIES

CHAPTER FOUR

Out On His Own

By Rebecca Northan



Kai and Cousin Thom had followed the Great River for three days before the two parted company. Cousin Thom was to make his way back to the village of Apsu to collect his belongings, leaving Kai to continue his search for the Waterkeeper alone. "Remember to ration your water, Kai," cautioned Cousin Thom. "There are freshwater springs to be found in the region, but not many. Travel safely little man."

"Farewell Cousin Thom. See you soon." Kai called, then he turned and set out on his own for the first time in his life.

The devastation along the riverbanks was palpable. As Kai traveled north, he saw vast numbers of dead fish littered amongst shriveled plants at the water's edge. Trees that had once blown in gentle breezes, providing shade for travelers, were now dropping leaves riddled with strange, brown spots. The air, normally alive with the sound of birdsong, was eerily quiet. Whatever was turning the waters of the Great River black was also killing anything that lived on her banks.

After trekking a few hours Kai came into a small clearing that seemed like a good place to rest and have lunch. He was just unwrapping a hunk of bread when suddenly Kai heard a low moaning sound coming from a clump of bushes. Heart racing, he snatched up his bow and arrow and aimed at the spot where the sound was coming from. "Who's there?!" Kai demanded. Suddenly, a woman stumbled from the bushes and collapsed in the center of the clearing! Kai dropped everything and rushed to her side. The woman's clothes were dirty and tattered and when Kai rolled her over he noticed that her lips were dry and cracked. Her eyes fluttered open and she croaked, "Water. Please." Not wasting any time Kai seized his water skin and brought it gently to the woman's lips. "You'll be OK, " Kai assured her. "Just sip it." The woman looked up at Kai and smiled when, from out of nowhere, an unseen hand landed a crushing blow on the side of Kai's head.

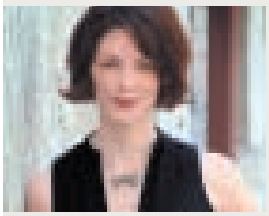
When Kai finally regained consciousness it was dark. The woman he'd been trying to help was gone. His head throbbed and he felt dizzy. Gingerly, Kai massaged a painful goose egg just above his left temple that was crusted with dried blood. Sitting up carefully he surveyed the clearing in the moonlight. Whoever had knocked him on the head had also stolen his food, his bow and arrow and... his water skin! Kai felt a growing sense of dread as he realized that he was now alone in the woods with no food, no way to defend himself, and worse yet – Kai was thirsty. He would have to find a spring, well away from the poisoned river, as soon as possible.

"Alright then," Kai said out loud in a determined tone. "Where am I going to find a spring?" Suddenly, Kai was startled by a tingling sensation against his chest. The dragonfly that Noni had given him! Kai reached into his shirt and pulled out the stone-carved dragonfly he wore on a leather cord around his neck. The dragonfly was pulsating with a mysterious, green light. As Kai cupped it in the palm of his hand the dragonfly transformed, as if by magic. Its wings began to beat and it lifted up into the air, tugging at its leather cord as it hovered an inch from the end of Kai's nose. "Whoa!" Kai exclaimed as the dragonfly continued to pull at the leather cord. "Um...do ***you*** know where I can find clean water?" Kai asked the dragonfly. It tugged again and Kai followed.

The dragonfly led Kai on a haphazard course deep into the woods. After what seemed an eternity Kai spotted the mouth of a cave, partially concealed behind a grove of trees. Inside he could hear the sound of running water. He would never have found this place on his own. "Wow. Thanks Dragonfly."

Still casting a green glow, the dragonfly lit the way as Kai cautiously made his way into the cave. Eventually, the cave opened up into a large cavern where Kai could see a small, crystal clear waterfall cascading into a deep pool. Dropping to his knees, Kai leaned forward to scoop up the pure water with his hands, when suddenly, looking deep into the pool he saw... a pair of large, green eyes staring back at him! **W**

Read previous installments of Waterkeeper's Wake online at www.WATERKEEPER.org/Wake. Ideas for the story? Contact editor@waterkeeper.org with ideas and comments.

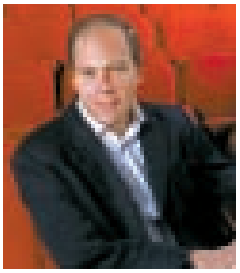


When I first heard about Waterkeeper Alliance I wanted to help. But I wasn't sure what I could do – I'm an actress, but not a famous one. I decided to write a children's story for Waterkeeper Magazine. I hope that kids will be inspired by this story and find their own ways to help.

Films Afloat Part 2:

Off International Shores

By John Farr



BILL ABRANOWICZ

"Through Visconti's unsparing lens, we witness the daily repetition of backbreaking labor and injustice the fishermen endure, amidst images of stark, breathtaking beauty."

For another dose of salty, thought-provoking movie fare, check out these top-notch DVDs that take place on the sea, this time with the action set on foreign waters.

No film better illustrates the organic, elemental relationship between the brute nature of the ocean and human endurance than Robert Flaherty's haunting documentary, **"Man of Aran" (1934)**. Shot off Ireland's remote Aran Islands, whether battling ferocious storms or hunting a gigantic basking shark, we see the residents undergo their arduous, dangerous tasks with hardy, cheerful determination, seemingly undaunted by the hardships they face. Flaherty, director of the classic "Nanook of the North" and acknowledged father of the documentary form, shot "Aran" over two and a half years, casting locals in key roles and training his camera on the magnificent, craggy environment where they eke out their survival. "Man of Aran" is pure visual poetry, still astounding and unforgettable after all these years.

Years before Italian director Luchino Visconti became famous for lavish epics like "The Leopard," he directed a neo-realist masterpiece called **"La Terra Trema" (1948)**. This peerless semi-documentary work reveals the rough, uncertain life of Sicilian fishermen on a temperamental sea, also portraying the challenges these men face on land, as they fight the fish wholesalers who make all the profit from their catch. Through Visconti's unsparing lens, we witness the daily repetition of backbreaking labor and injustice the fishermen endure, amidst images of stark, breathtaking beauty. Featuring a brilliant use of non-actors, whose weathered faces tell the same hard story, this fascinatingly rewarding film has the impact of the best fiction, with the unmistakable tang of truth.

Believe it or not, another great film portrays this same world in a more dramatic, individualized way, and this trip is also in blazing color: Gillo Pontecorvo's much under-rated **"The Wide Blue Road" (1957)**. Shot on location off the Dalmatian coast, the film stars the charismatic Yves Montand as Squarcio, a man of quiet desperation who risks the wrath of his small community by using explosives to increase his yield of fish. Though Squarcio agrees to change his ways when nabbed, he doesn't make good on his promise, putting his pride and livelihood at stake. "Road," Pontecorvo's first feature, remains a stunning achievement, evoking the moral ambiguity of a man trapped in poverty who breaks rules to create a better life for his family. This striking, nuanced picture is anchored by a sublime performance from Montand, one of the finest in a long, illustrious career.

Now, back to Italy, and renowned filmmaker Michelangelo Antonioni, who was already in his mid-forties when he won international recognition with **"L'Avventura" (1960)**, a moody, profound piece about moral and spiritual emptiness among the idle rich. The plot in a nutshell: a chic circle of friends decide to go yachting one day and alight on a remote island off the Sicilian coast. There, one of the group, a young woman named Anna (Lea Massari), mysteriously vanishes after arguing with lover Sandro (Gabriele Ferzetti). Sandro starts a prolonged search along with Claudia (Monica Vitti), Anna's best friend. Soon enough, Sandro and Claudia find themselves drawn to each other. But are they experiencing love, or just the basic, human need to connect? This masterful portrait of modern alienation constitutes a demanding but profound film experience.

Finally, in Roman Polanski's arresting feature debut, **"Knife In The Water" (1962)**, shot in his native Poland, weird dynamics arise when a married couple impulsively invite a young male hitchhiker on a boating excursion. The husband and the stranger instinctively vie for macho supremacy as a way to impress and lay claim to the desirable female, who goes right along with this primal dance. A subtle tale about mankind's baser instincts lurking just beneath our civilized veneers, this jarring psychological thriller catapulted Polanski to fame, presaging such classics as "Rosemary's Baby" and "Chinatown." Who knew boating could be like this? W

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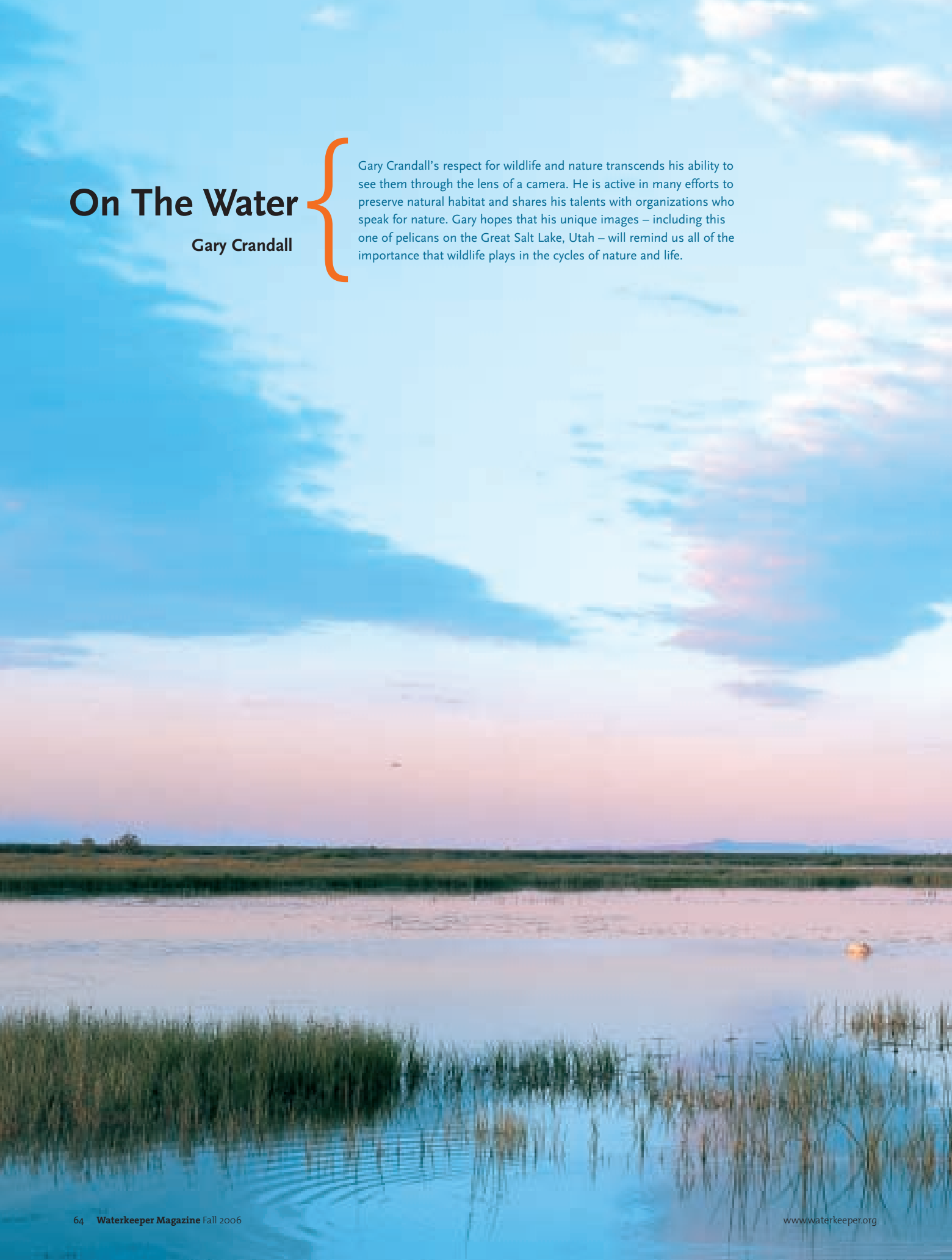
On The Water

Gary Crandall

Gary Crandall's respect for wildlife and nature transcends his ability to see them through the lens of a camera. He is active in many efforts to preserve natural habitat and shares his talents with organizations who speak for nature. Gary hopes that his unique images – including this one of pelicans on the Great Salt Lake, Utah – will remind us all of the importance that wildlife plays in the cycles of nature and life.



Pollution Pumping Rule

Bush administration to allow polluted water transfers between waterbodies

The 18-mile Shandaken Tunnel was built in the early 1920s to carry 650 million gallons of water from a Catskill Mountain reservoir to Esopus Creek to help supply New York City with drinking water. Each day, this extra silt-laden water from Schoharie Reservoir chokes the otherwise pristine Esopus Creek, turning the water murky brown. A federal court ruled that this water transfer requires a Clean Water Act permit.

Thousands of water transfer projects like this one operate across the U.S., transporting enormous quantities of water from one waterbody to the next, often without regard to environmental, human health and economic consequences. The Clean Water Act is the only safeguard against the pollution of waterways through inter-basin transfers.

But EPA wants to change this. This past June, EPA proposed a rule to exempt water transfers from the Clean Water Act permitting requirements. If approved, waters, no matter how polluted, can be transferred into waterways, no matter how pristine, without review or authorization. Why? The Bush administration wants to undercut the growing number of lawsuits against this practice. If EPA legalizes the transfers, it cuts down their paperwork.

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Inter-basin transfers can spread any number of pollutants including industrial and agricultural waste, sewage, invasive species and other contaminants to our nation's waterways. Greater incidences of fish kills, human illness and other disastrous impacts of pollution in our waters will result if EPA's proposal to exempt polluted water pumping from the Clean Water Act is finalized. Waterkeeper Alliance has submitted extensive comments in opposition to the rule on behalf of more than 50 Waterkeeper programs, urging the EPA to withdraw the proposal and establish proper permitting requirements for water transfers as required under the Clean Water Act. W

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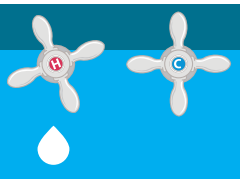

Don't miss the fall issue of Waterkeeper when we'll look at **Power Plant Cooling Water**

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