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turning our waters
TOXIC GREEN

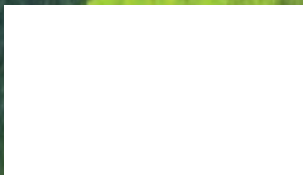
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Fall 2007

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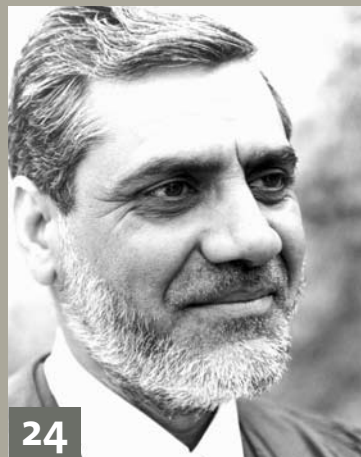
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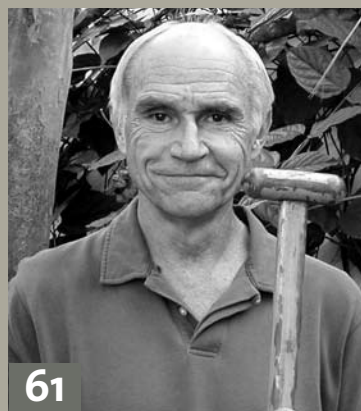
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The Surf, the Sound and the Sea of Toxic Green

“Sky of blue, sea of green,” sing the Beatles, but this green is not natural, it is quite toxic and deadly.

Pete Seeger says that if you put a frog in cold water and slowly bring it to a boil the frog will sit calmly and simmer. In contrast, a frog tossed into a boiling pot will energetically try to escape. Our communities, are like that frog, sitting silently as our waterways slowly turn green and suffocate under a blanket of algal slime. A constant supply of nutrients, pouring into our waters from fertilizers, animal waste and inadequately treated sewage is killing our waterways. It's a problem that we know how to solve. We simply need to keep our waste out of our water. But public officials at all levels of government are sitting on their hands. A survey of Waterkeepers around the U.S. shows nutrient pollution to be the single most widely shared water quality problem of any that we face. But it is rarely given the attention it deserves, even as the problem grows worse and worse.

Almost anyone who spent time this summer around the water has seen the results of nutrient pollution. Where you used to wade in, look down and see your feet, you now just see a sickly green. You've seen waters choked with algae. Fish circle at the surface, gulping for oxygen. Algae coat stream beds, displacing fish like trout that depend on a clear rocky bottom for spawning. And lakes, bays and coasts, where nutrients collect, are choked with massive algal blooms. When the algae

die, they decompose, stealing life-giving oxygen from the water and turning once productive waterways — like the Chesapeake Bay, Gulf of Mexico and Long Island Sound — into lifeless underwater dead zones. Nutrient pollution causes *pfiesteria* and other diseases that now effect waterways all over the nation, killing fish by the millions. “Sky of blue, sea of green,” sing the Beatles, but this green is not natural, it is quite toxic and deadly.

We are literally exterminating life in our waterways. Long Island Sound, like coastal waterways around the world, is one example of how we are turning up the heat. Prior to 1987, the changes in Long Island Sound's ecology were dramatic but so gradual that people just accepted them. Like the frog tossed in cold water, no one noticed the slow but lethal environmental changes. In the summer of 1987, Long Island Sound finally succumbed. Its eastern half died. Scientists found zero dissolved oxygen in the water. The fin fish left the area or perished. The barnacles, crustaceans, clams, quahogs and lobsters died. For the first time, people who lived around the sound experienced more or less a universal consciousness that something important was being lost. In truth, those losses began long ago.

The first European explorers to see Long Island Sound described a region of mythical productivity. They smelled aro-

mas from Long Island's flowers before sighting land and found 400 bird species, most of which are gone today. Henry Hudson's Lieutenant Robert Juett described rivers choked with salmon (probably striped bass) and mullet. Giant dolphin pods schooled in the East River and New York Harbor. F. Scott Fitzgerald, one of Long Island's most faithful chroniclers in recalling its legendary abundance, suggested that the sound appeared to the first Dutch sailor as the "fresh green breast of the new world" compelling him to hold his breath in "an aesthetic contemplation he neither understood nor desired, face to face for the last time in history with something commensurate to his capacity for wonder."

Two hundred years after contact, the European invasion had little impact on the estuary's extraordinary productivity. During the 18th century enough lobster still washed ashore each night from natural die-offs to fertilize the coastal farms of Connecticut, New York and Massachusetts. Inmates protesting endless servings of Long Island Sound lobster rioted in New England prisons. New Yorkers ate more oyster than any other kind of meat, the product of a bivalve — now extinct — called the East River oyster, whose 11-inch shell housed seven pounds of succulent flesh.

The 19th century's Industrial Revolution's impacts were noticeable but still lacked the drama needed to cause an outcry. The dolphins disappeared during the Civil War but entire communities continued to thrive on the sound's terrapin, ducks, striped bass, blue fish, clams and other estuarine bounties. Waterfront market hunters and fishermen prospered.

By the 1920s, the terrapin, duck and lobster populations were in decline and periodic algae blooms clouded waters, once gin-clear. Somewhat less exuberant, Fitzgerald christened his contemporary Long Island Sound, "that great wet barnyard," acknowledging its modern function as the primary waste receptacle for the enormous human population now crowding its shores. But even in Fitzgerald's time, life filled the sound supporting its thriving commercial and recreational fisheries.

In the three decades before 1987, the pace of change accelerated becoming noteworthy even in the memory of a single generation. I grew up on Cape

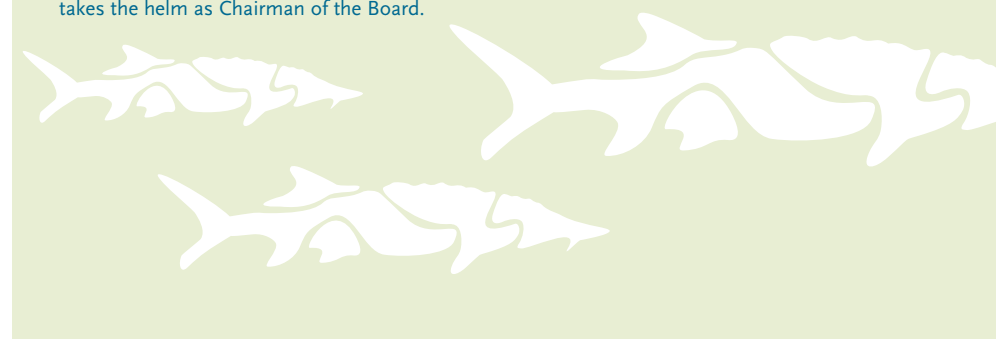
Cod, which is part of the hydrology of Long Island Sound. For a brief time, my family had a home in Glen Cove on Long Island. There were fishes that I knew as a boy that are gone today; among them the smelt, once so numerous they could be scooped with a bucket. Long Island Sound's flounder catch dropped from 40 million pounds in 1982 to a million pounds in 1987. The oyster catch sank from 3 million bushels annually to 15,000. The blue crabs and razor clams abundant in every bay and mudflat when I was a boy — disappeared altogether.

The year 1988 began the first economic downturn in United States history during which New York City's unemployed could not go to the shores of Long Island Sound and reliably catch a fish for the family dinner table. The fish were mostly gone. Shellfish beds were closed. Chemicals and bacteria had poisoned the clams and

water-based income losses to the Long Island Sound region caused by pollution. The cultural and historical losses are equally disturbing. Long Island Sound has a special role. It gives New Yorkers, prisoners of asphalt and steel, their best opportunity to retouch the land and water. When we destroy this resource, we lose our sense of the seasons and the tides and the life cycles of the fishes and our sense of the earth and our place on it.

In her 1962 book, *Silent Spring*, Rachel Carson sounded the clarion call against pesticides and toxins in our environment. And in the early 1970s, Congress passed laws limiting or banning pesticides that were killing our birds. Today, Waterkeepers are working to awaken an equal response to stop the extermination of our waters from nutrient pollution. We must enforce and strengthen standards for waste treatment systems, make agri-

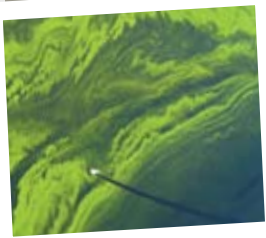
Since our founding in 1999, Waterkeeper Alliance has grown from 25 to 161 member programs on six continents. To meet the demands of our rapidly growing, highly dynamic organization, the Board of Directors is proud to announce that this September, Kristine Stratton joined Waterkeeper Alliance as the new Executive Director. Steve Fleischli, after serving in that role since 2003, will take on the role of President. And Robert F. Kennedy, Jr., who has served as President since cofounding the organization in 1999, now takes the helm as Chairman of the Board.



oysters. After 350 years of putting food on our tables and enriching our culture, commercial fishermen left their profession in droves seeking other occupations — hanging sheetrock or tiling roofs and turning their backs on the sound.

Clearly there are serious economic impacts when we lose an estuary like Long Island Sound. Diminished fisheries are only part of the annual \$6 billion dollar

cultural polluters (mostly industrial meat factories) accountable for their waste and stop the other sources from dumping their nutrients into our waters. Practically all our nation's waterways are at risk of suffocation. Many waterways are already feeling the heat. It's time for us to man the barricades against this overwhelming threat to our environment, security and our way of life. **W**



ON THE COVER

Sailing into an algae bloom on the St. Johns River, Florida, August 2005. Photo: Bill Yates

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

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Who is Waterkeeper Alliance?

Waterkeeper Alliance gathered at City Park in New Orleans, Louisiana, June 2007.



On 161 waterways around the world, a Waterkeeper is on patrol, standing up to polluters and enforcing the laws that protect our rivers, lakes and coastal waterways. **Waterkeeper Alliance** supports our local Waterkeepers with legal, scientific

and policy expertise and takes their clean water campaigns to the national and international level. **Waterkeeper Alliance** is the most effective protector of clean water because we truly act locally and organize globally.

Everyone has the right to clean water.



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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.

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Robert F. Kennedy, Jr. Takes Helm of Waterkeeper Alliance as Chairman

Board of Directors Announces
New President, Executive Director

Waterkeeper Alliance is pleased to announce a new senior leadership structure to meet the needs of the fastest growing grassroots advocacy organization in the world. In 1999 Robert F. Kennedy, Jr. and veteran Waterkeepers founded Waterkeeper Alliance to support the nationwide coalition of 25 local Waterkeeper programs. Driven by the unmatched success of the Waterkeeper model of aggressive, citizen-led advocacy, today, 161 Waterkeepers patrol and protect waterways on six continents. To ensure strategic coordination of this international network of local advocates, and in anticipation of continued growth, the Waterkeeper Alliance Board of Directors is pleased to announce an organizational leadership change that will increase our capacity and strengthen the work of our local Waterkeepers around the world.

Robert F. Kennedy, Jr., who has served as President since founding the organization in 1999, now takes the helm as Chairman of the Board. Mr. Kennedy is one of the world's most accomplished environmental advocates and the nation's leading voice for strong environmental and public health protection. As Chairman, Mr. Kennedy will expand his strategic leadership for the Waterkeeper movement and increase the visibility and reach of Waterkeeper Alliance. "The Waterkeeper model of citizen action is in high demand around the world," says Chairman Kennedy. "The promotion of Steve Fleischli and the addition of Kristine Stratton into the leadership of Waterkeeper Alliance all allow us to meet this need and bring our fight for clean water to communities everywhere."

Steve Fleischli, after serving as Executive Director since 2003, will take on the role of President. Mr. Fleischli is an attorney and former Santa Monica Baykeeper in Los Angeles where he was instrumental

in the passage of rules to eliminate summer beach closures in Santa Monica Bay and trash in Los Angeles-area rivers. Mr. Fleischli's institutional knowledge and proven record of success as a leader of the Waterkeeper movement are unparalleled. As President, Mr. Fleischli will chart the course for elevating the profile of the organization, leading advocacy campaigns and expanding local Waterkeeper growth domestically and internationally.

The Board of Directors also is proud to announce that Kristine Stratton has joined Waterkeeper Alliance as Executive Director. Ms. Stratton brings extensive experience and a fierce commitment to environmental protection and community action. As Executive Director, she takes over day to day operations of Waterkeeper Alliance advocacy campaigns and member program support. Ms. Stratton comes to us from the Conservation Law Foundation in Boston, Massachusetts, prior to that, she spent more than a decade with the WGBH Educational Foundation.

On 161 waterways on six continents around the world a local Waterkeeper is on patrol. Monitoring their waterway and enforcing the laws that protect our waterways and our communities. Waterkeepers serve as investigator, advocate, scientist, educator and lawyer — the voice of their waterway. Waterkeeper Alliance supports and connects these local citizen advocates into a unified force for environmental protection. The Alliance strengthens our local Waterkeepers — bringing their clean water campaigns to the national and international level.

Everyone has the right to clean water. And with this new leadership structure Waterkeeper Alliance has expanded our capacity to fight to protect our rights and to serve local Waterkeepers and the communities that depend on clean water around the world. [w](#)





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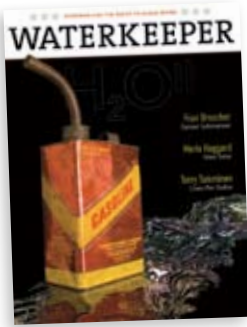
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Massachusetts Oil Act



Buzzards Baykeeper scored a major victory in the First Circuit Court of Appeals this summer – good news for all coastal Waterkeepers. The decision by the court reinstates key provisions of the Massachusetts Oil Spill Prevention and Response Act and

supports states' rights to establish oil spill prevention measures. While the legal battle isn't over yet, this is an important step. The support of Alaska, Washington, Oregon, California, Maine, Rhode Island and Puerto Rico against the federal government and oil industry is an important indicator that states are beginning to stand up for themselves against oil interests.

Each year, more than two billion gallons of oil are shipped through Buzzards Bay, Massachusetts, putting the bay at grave risk for hazardous oil spills. For a long time, the state's best defense against a toxic disaster was the Oil Spill Prevention and Response Act, a state law that requires tugboat escorts, and enhanced manning and watch provisions for tankers. The law also ensures that oil transporters are held accountable for damage to the waterways, and that a proper cleanup is performed in the case of an oil spill emergency.

But in July 2006, ruling on a complaint filed by the federal government with support from the oil lobby, the U.S. District



In 2003 an oil barge owned by Bouchard Transportation Company spilled 98,000 gallons of fuel oil into Buzzards Bay (seen here unloading oil after the spill). In spring 2007 Coalition for Buzzards Bay (home of the Buzzards Baykeeper) caught the company irresponsibly breaking state oil spill safety requirements.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION/DEPARTMENT OF COMMERCE

Court eliminated important environmental protections in the law. Baykeeper and the Coalition for Buzzards Bay, together with the Commonwealth of Massachusetts, appealed the decision. This summer, after a year-long legal battle, the U.S. Court of Appeals reversed the lower court's decision, reinstating the environmental protections and remanding the act back to the lower court for a rehearing.

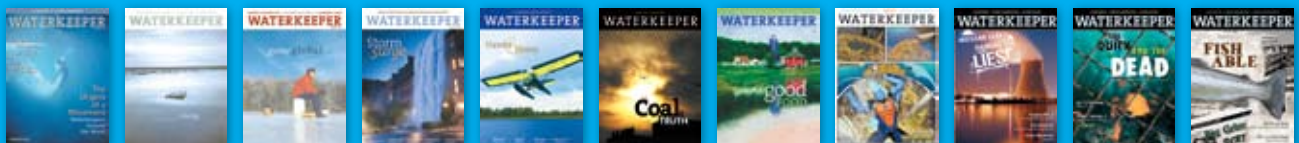
In the interim, the state has held firm in maintaining the protections in the act. In July, legislation drafted by Baykeeper and the Coalition was presented before the Joint Committee on the Environment for

the City of New Bedford with support from state representatives. The bills provide a plan for tugboats with trained pilots to shadow oil tankers as they navigate Buzzards Bay. And in August, the Massachusetts Department of Environmental Protection and Attorney General's Office announced that it would enforce environmental provisions in the act while it is being reviewed by the lower court.

Buzzards Baykeeper and the Coalition hailed this as a major victory in the ongoing fight to prevent another oil spill in the bay and preserve state protections against federal rollbacks.

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DONNA KARAN
NEW YORK

{{ Ripples }}



NJ Ospreys Fledge

Ospreys are unique among birds of prey; these 'eagles of the sea' dive completely underwater to catch their kill.

Natural history was made on the Hackensack River this July when the first Osprey chick to hatch in the New Jersey Meadowlands in over 50 years took flight. The baby bird flapped its wings, hopped, hovered and then flew about a hundred feet along the river before perching on a utility pole.

The fledging of the young osprey is a telltale sign that the vital meadowlands are on their way to recovery. Habitat loss, water pollution, DDT and the unrestrained killing of raptors during late 19th and early 20th Century led to the sea eagles' disappearance from many urban watersheds. Hackensack Riverkeeper's work over the past ten years has helped increase food and improve habitat for the birds. If the young raptors survive into adulthood and learn to fish, it is likely that they will return to the Hackensack River to raise young of their own.

Kelp Help

Kelp beds are critical marine habitats that provide food and shelter to over 800 species of flora and fauna. But just like the old growth forests of the Pacific Northwest and the rainforests of the Amazon, the giant kelp forests are slowly vanishing from the planet. Without intervention, the kelp ecosystem in Southern California may never regain its historic proportions.

That is why, as part of a collaborative effort launched by the California Coastkeeper Alliance, San Diego Coastkeeper conducted a Kelp Restoration and Monitoring Program. Over the course of the six year program, San Diego Coastkeeper worked with 160 volunteer divers to monitor and restore local kelp beds. In addition, more



Kelp biologist at work.

than 3,625 students in 15 schools dedicated an entire year to learn about kelp. As the kelp program comes to an end this year, it will continue to serve as an innovative model to enhance the quality of education in our classrooms and promote a sense of ownership of the ocean ecosystem among San Diego students and their families.



Baltimore Harbor Waterkeeper held their boat launch and parade in July and it was a huge success. Firefighters led the parade through the harbor, Chesapeake Waterkeepers followed in their own boats, and police serenaded the crowd from helicopter sirens in the sky.

Mission Bay Wetlands Win Protection

After more than a decade of indecision, faulty surveys and inconsistent directives, the City of San Diego has granted the highest level of protection to 133 acres of wetlands in Mission Bay Park. In 1987, the city decided that 25 percent of the land and 6.5 percent of the water in Mission Bay could be developed. Marshlands were

not clearly distinguished, resulting in the destruction of ecologically important wetlands in the middle of the San Diego River channel. With San Diego Coastkeeper's strong support, the City Council has now voted unanimously to guarantee the protection of the remaining marsh.

BE BRAVE



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Teva

Waterkeeper Family Album

CONGRATULATIONS!



◀ On May 29, Annika Elizabeth Gerlach was born at 8 lbs., 20.5 inches to Waterkeeper Staff Attorney Bill Gerlach and his wife Pearl.

Baltimore Harbor Waterkeeper Eliza Smith Steinmeier is the proud mother of Samuel Smith Steinmeier born August 22 at 6 lbs., 6 oz. ▼



▲ Reed Super, Waterkeeper's lead attorney in the landmark federal case on industrial cooling water, is the new father of Lyle Sebastian Super born on August 28 at 8 lbs., 13 oz.



▲ Francisco Ollervides, Waterkeeper Senior Field Coordinator and his wife Emily were married on July 14 on the beaches of Cancun, Mexico. The newlyweds are pictured here, with Francisco's family.



Discovery Day Paddle

Tualatin Riverkeepers celebrated its 18th Annual Discovery Day with a splash this July. Each year, Tualatin Riverkeepers organizes a public official canoe race and community paddle. This year, six mayors, five county commissioners and five city and regional councilors participated in the race down the river. More than 200 others paddled a 5.5 mile course and learned about Tualatin Riverkeepers' efforts to protect Oregon's Tualatin River.

Waterkeepers Australia Conference

Waterkeepers Australia met this July in Melbourne, Victoria, to share their experiences and expertise in dealing with the nation's most pressing water issues such as misallocation and overuse. The Waterkeepers also studied the strategies of Atchafalaya Basinkeeper and Lower Mississippi Riverkeeper as they work to save Louisiana's cypress forests, which are being logged for cheap garden mulch, as a model for future Waterkeepers Australia campaigns.



Mini-Summit Marks Buffalo River Progress



Buffalo Niagara Riverkeeper Julie O'Neill during the press conference with the *Mudpuppy* in the background taking demonstration core samples of river bottom sediment.

State, local and federal officials and representatives from 30 different environmental, business and community groups gathered in June for the Buffalo River Mini-Summit, hosted by Buffalo Niagara Riverkeeper. The Mini-Summit marked the next critical stage towards the cleanup of the river: sampling the lower Buffalo

River sediments for chemical contamination. At the event Riverkeeper Julie Barret O'Neill spoke on the progress of the river's cleanup. The summit culminated with a formal launch of EPA's sampling vessel the *Mudpuppy*.

Jordan River Canoe Float and Parade

Great Salt Lakekeeper and supporters paraded down Utah's Jordan River this summer in full 19th Century costume and décor during the Jordan River Canoe Float and Parade. The annual event is sponsored by Lakekeeper to celebrate Pioneer Day, a Utah holiday that commemorates the arrival of Mormon pioneers to the Salt Lake Valley in 1847. The event also draws attention to the Jordan River and tributaries as an important part of the pioneer story, providing water for early settlers in the harsh desert environment.

HONORS

Yarriambiack Documentary Finalist in UN Awards

Our Fair Share, a documentary produced by Waterkeeper Australia's Yarriambiack Creekkeeper, was selected as a finalist in the United Nations Association of Australia World Environment Day Awards. In recent years, the Yarriambiack Creek's water has been diverted to the Wimmera River. The documentary captures Creekkeeper and the community's battle to restore the flows of the Yarriambiack and have a voice in the management of their waterway.

Hurricane Creek One of Seven Wonders

Hurricane Creek was chosen as one of Seven Wonders of West Alabama by readers of *Tuscaloosa News* this July. Hurricane Creek was nominated as the region's second wonder, behind Mound State Park. Author Mark Hughes noted, "If we went by volume and passion of reader responses alone, Hurricane Creek would be far and away West Alabama's greatest wonder."

Great Salt Lakekeeper Awarded

Great Salt Lakekeeper was awarded the 2007 Outstanding Achievement in Pollution Prevention Award by the Utah Pollution Prevention Association in September. The award recognizes outstanding efforts by individuals, businesses, local governments and community organizations that help Utah's environment and public health. Great Salt Lakekeeper was recognized for the 2006 Jordan River Parkway Cleanup Campaign.

KEEPER SPRINGS IS A PROUD SUPPORTER OF
WATERKEEPER ALLIANCE, DONATING 100% OF OUR
PROFITS FOR ENVIRONMENTAL PROTECTION.



Frisco Adopts Aggressive Plan to Fight Mercury



Mercury harms our waters, our fish, our bodies and our health. This potent toxin has been linked to a range of neurological and health effects, including impaired development and motor skills, blindness, sterility, heart disease, tremors and even death. Signs like this one are only a small part of the solution. The state will now take concrete action to eliminate mercury contamination.

Since the California Gold Rush, San Francisco Bay has been inundated with mercury. Miners used 26 million pounds of mercury to extract gold from California's Coastal Range. Today, mercury from polluted stormwater runoff, industrial wastewater, atmospheric deposition and mercury-laden sediments continue to foul the bay. This July, after over a century of contamination and after nearly a decade of advocacy, San Francisco Baykeeper and partners succeeded in forcing the state to adopt a tough plan to reduce mercury pollution in the bay.

The new plan requires all sources of mercury, both old and new, to limit pollution to the bay. Under the plan historic sources like gold mines and contaminated bay sediment will be inventoried for cleanup. Present day sources of mercury such as stormwater and industrial waste will now face tighter restrictions. Cities must reduce mercury in polluted stormwater from city streets, sidewalks and buildings by 50 percent. Industries must reduce mercury in their wastewater discharges by 20 to 40 percent. And oil refineries, which contribute as much as 3,700 pounds of mercury in the Bay Area environment annually, now have to account for the mercury in crude oil.

The plan also includes strict new requirements to help communities who rely on the bay for food. Up



until now, the state has posted warning signs alerting fishermen and women of the dangers of mercury contamination in fish. But the reach of these signs is limited. The rusting, sometimes illegible or

misplaced signs prove ineffective for the most vulnerable communities, who may be illiterate or non-English speaking. Traditional signage also fails to recognize that communities who rely on free fish and seafood from the bay cannot afford to take contamination into account. The new plan requires local agencies and industries to generate and fund new protective actions to educate at-risk communities about safer food sources

and train medical workers to better recognize and treat signs of mercury poisoning.

Currently, about 2,645 pounds of mercury enter the San Francisco Bay annually. The plan aims to slash the amount of mercury entering the bay down to 1,540 pounds, a reduction of more than 40 percent. The plan also includes a new process Baykeeper and other organizations can use to force the state to revise and further improve the plan based on new evidence. "Every little bit of mercury that enters the bay is potentially harmful," said Sejal Choksi, San Francisco Baykeeper. "I am optimistic that we may be able to use this strong new framework to slash the mercury problem in the bay."

SANTA MONICA BAY, CA

El Segundo Power Plant To Stop Ocean Intake

In a landmark action, NRG Energy announced their intention to convert El Segundo, the company's Santa Monica California power plant, to a closed-cycle cooling system, eliminating the use of Santa Monica Bay seawater as a coolant. The once-through cooling technology now used at the plant kills massive amounts of fish and other marine life. Last year, both the California State Lands Commission and Ocean Protection Council adopted resolutions dissuading the use of this antiquated technology in California. These actions were followed by a ruling from the a federal court in January 2007 in favor of a coalition of environmental groups, including plaintiffs Waterkeeper Alliance, Santa Monica Baykeeper and Hudson Riverkeeper, concluding that the Environmental Protection Agency shall require power plants to protect aquatic habitats and employ the best technology available. "Our victory in the federal courtroom is bringing life back into the Santa Monica Bay," said Tracy Egoscue, Santa Monica Baykeeper.

PETITCODIAC RIVER, CANADA

Causeway Will Be Removed

In 1968, the province of New Brunswick, Canada, constructed a kilometer-long causeway across the Petitcodiac River with little regard to conservation or estuarine concerns. The causeway is essentially an earthen dam that interrupts the natural flow of water in the river. With the river blocked, fish populations have plummeted, native fish species have become extinct and the size of the river has been significantly reduced.

Petitcodiac Riverkeeper has been working for eight years through outreach and legal action to remove the causeway. This August, in a giant step forward for the Petitcodiac River, a provincial minister publicly announced New Brunswick's commitment to replace the causeway with a 280-meter long bridge that will restore the flow of the river. Petitcodiac Riverkeeper is now putting their efforts towards urging the federal government to assist with the cost of the bridge.



Aprica

Important Step Towards Preserving Endangered Cypress Swamps

In addition, Home Depot has said that they will independently verify the sustainability of the cypress that they sell in their stores. However, no such verification currently exists and Home Depot has not



On June 7, 2007, Waterkeepers and friends spoke out against the destruction of cypress forests at a press conference in City Park, New Orleans. Speakers, including Robert F. Kennedy, Jr. and Reverend Dan Krutz (pictured), addressed news cameras, reporters and more than 200 advocates wearing T-shirts emblazoned with "Save the Cypress Forests." In addition, Waterkeeper Alliance announced the publication of the second installment in their national cypress ad campaign: **Don't Buy It** — a full-page Section A advertisement in *USA Today* reaching more than 2.2 million people. Lower Mississippi Riverkeeper and Atchafalaya Basinkeeper — leaders of the Save Our Cypress Coalition — also announced that New Orleans and more than 50 other Louisiana cities, churches, businesses and other organizations have pledged not to buy or use cypress mulch.

confirmed how they plan on implementing independent verification. Mulch suppliers for Home Depot and Lowe's have claimed in the past that their suppliers do not source from coastal Louisiana, but the Atchafalaya Basinkeeper has gathered evidence proving this assertion to be false.

"Suppliers of cypress mulch have proven willing to hide the source of their product in the past," says Dean Wilson, Atchafalaya Basinkeeper. "Wal-Mart recognizes the difficulties with verification and is acting accordingly by identifying the whole state as an unacceptable source."

Lower Mississippi Riverkeeper has prepared an interactive cypress map showing chain-of-custody concerns through documented examples of clear-cutting and cypress mulch production in Louisiana (available at www.lmrk.org). As the map demonstrates, many brands of mulch which are produced in Louisiana are deceptively labeled with addresses in Florida, Texas and Arkansas.

Despite the limited victory for Louisiana cypress forests, cypress forests nationwide remain at risk of this destructive industry. According to the University of Florida, cypress trees in Florida are being cut out of the wetlands at a rate faster than they can regenerate, and almost half of the cypress cut is used for mulch.

The Save Our Cypress Coalition continues to call on Wal-Mart, Home Depot and Lowe's to stop selling cypress mulch that is not certified as sustainable, no matter where the logging occurs. While cautiously celebrating Wal-Mart's move in Louisiana, the coalition submitted formal letters signed by more than 160 organizations to Wal-Mart, Home Depot and Lowe's asking the companies to stop selling cypress mulch. Supporters include conservation groups, garden clubs, anglers, eco-tourism operators and members of the faith-based community.

Cypress forests are heralded as some of the Gulf of Mexico's best natural storm and flooding protection. The swamps support a wide array of wildlife including fish and crustaceans, migratory birds and threatened and endangered species such as the bald eagle and the Florida panther. The swamps are of national importance in protecting the economy, the unique environment of the Gulf Coast and its people. **W**

Don't Buy It!



Buying Cypress Mulch Destroys Our Coastal Forests

Before you buy cypress mulch, you should know: cypress mulch production is destroying the coastal forests that protect America's Gulf Coast from hurricanes and flooding. Entire cypress forests are being ground into mulch, even in places where cypress will never grow back. And it's unnecessary. Pine bark, pine needles, and even leaves work just as well, and are much more environmentally friendly. Lowe's, Home Depot, and Wal-Mart loudly proclaim their concern for the environment, yet they continue to sell cypress mulch. It's time they stop.

**Preserve America's beautiful cypress forests.
Protect our Gulf Coast. Don't buy cypress mulch!**



FIND OUT MORE AT WWW.WATERKEEPER.ORG

As seen in *USA Today*,
Page 12A, June 7, 2007

WORKING With Our Waterkeepers

By New Jersey Governor Jon S. Corzine

New Jersey has a rich legacy of progressive environmental policies and I'm proud that my administration is continuing to expand upon that legacy. A key reason for this is the support of the Waterkeepers in New Jersey. We are privileged to have four Waterkeepers who serve as advocates for our waterways: Andy Willner, NY/NJ Baykeeper; Bill Sheehan, Hackensack Riverkeeper; Bill Schultz, Raritan Riverkeeper; and Maya van Rossum, Delaware Riverkeeper.

As New Jerseyans, we have long realized that our environment is one of the secrets of this state's economic success. Protecting it is critical to the high quality of life we enjoy, and keeping the environment healthy is crucial to ensuring that future generations can enjoy that same quality of life. Given that, it is our responsibility to prioritize the preservation of open spaces and the protection of our water supply.

When we protect our water quality, we protect the tourism industry that depends on clean beaches. As a coastal state, tourism at our ocean beaches is a large part of our economy. Our inland water resources are not only critical to ocean water quality but also serve as a drinking water and recreational resource to people who live near them.

Clean Water Initiatives

Over the past few years, we have launched a number of major Clean Water Initiatives to protect New Jersey's water resources. This past Earth Day, Commissioner Jackson proposed special protections for more than 900 miles of waterways and 1,300 acres of reservoirs that supply drinking water to millions of New Jerseyans. Ad-

ditionally, the commissioner advanced a regulatory proposal that would vastly improve wastewater management statewide.

Eventual adoption of this protection will mean safer drinking water for New Jersey's families and cleaner habitats for rare species of wildlife. The proposal offers New Jersey the highest level of water-quality protection, limiting development impacts and discharges of pollutants to streams, rivers and lakes, and ensuring no further degradation to waters that support critical wildlife or feed drinking-water sources.

New Water Quality Management Planning Rules were also proposed on Earth Day. These proposed changes will strengthen our ability to shield environmentally fragile areas from the threats that invariably accompany inappropriate development. For the first time, these proposed rules address the impacts of septic systems on groundwater and establish new standards for wastewater management planning, removing environmentally sensitive lands from sewer service areas.

The recently proposed Flood Hazard Area Control Rules seek to clarify and reorganize New Jersey's regulations to limit new development in flood plains. Current buffer zones of 25 to 50 feet would increase to 50, 150 or 300 feet depending on the category of the waterway. This will streamline activities as complicated as using machinery to remove major obstructions from waterways or elevating buildings above flood hazard areas, as well as activities as simple as building a fence or a patio.

The Department of Environment Protection is in the process of updating the State's Water Supply Master Plan, which is

a critical tool for smart growth. We expect the revision to be completed next year. The final plan will provide a blueprint for managing the state's water resources over the next 50 years and will ensure sufficient water supply in all parts of the state. It will also recognize that proper management is not just having an adequate potable supply, but ensuring a healthy ecosystem as well.

Our current Stormwater Management Rules emphasize low impact building techniques that will prevent and minimize impact on new development sites using both structural and non-structural techniques such as minimizing land disturbance, minimizing impervious cover, infiltration basins and vegetative filters. The design and performance standards for new development include groundwater recharge, runoff quantity controls, and stream buffers.

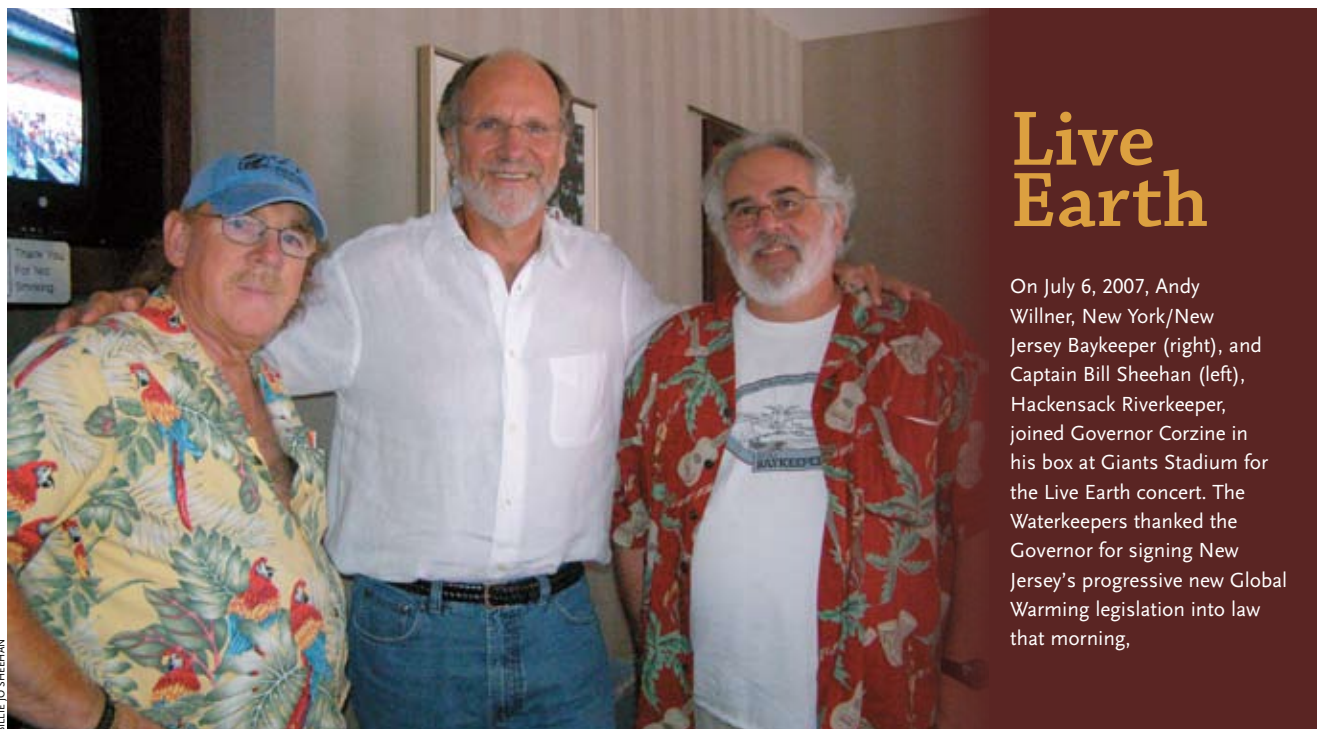
This administration's efforts to develop and implement statewide policies that protect our water supply are made possible, in part, by the support we receive from the environmental community, including our four New Jersey Waterkeepers who work in concert with us and also focus their efforts on protecting their individual rivers.

Global Warming and Water Resources

Over the summer, global warming was in the forefront of the news with the release of the Union of Concerned Scientists Report on Climate Change in the Northeast and the Live Earth Concerts for a Climate in Crisis. In light of the lack of federal action, I signed into law the Global Warming Response Act, strengthening our commitment to this priority issue for the state. New Jersey is now the third state in

Live Earth

On July 6, 2007, Andy Willner, New York/New Jersey Baykeeper (right), and Captain Bill Sheehan (left), Hackensack Riverkeeper, joined Governor Corzine in his box at Giants Stadium for the Live Earth concert. The Waterkeepers thanked the Governor for signing New Jersey's progressive new Global Warming legislation into law that morning.



BILLIE JO SHEEHAN

the nation to mandate Greenhouse Gas reductions by law and the first to codify long-term reductions. The goals set forth are the most ambitious in the country, requiring a reduction of Green House Gas emissions to 1990 levels by 2020 (20 percent reduction) and further reductions of emissions to 80 percent below 2006 levels by the year 2050 (80 percent reduction).

We have already made significant progress in evaluating policies and measures to achieve these goals and build on the reductions we anticipate from the Regional Greenhouse Gas Initiative, a ten state co-operative effort to implement a regional mandatory cap and trade program in the Northeast and Mid-Atlantic addressing CO₂ emissions from power plants. New Jersey plays a leadership role in this initiative, the first mandatory market-based program to reduce carbon emissions in the U.S. It will cap regional power plant CO₂ emissions at current levels from 2009 through 2014 and mandates emissions reductions by 10 percent in 2019.

The Clean Vehicle Program, Cool Cities and other clean energy policies and programs are part of a full suite of programs to move New Jersey towards achieving these reductions. Long-term success, however, will require the cooperation of every business and individual in the state.

Natural ecosystems and our water supply will be affected by warmer temperatures and associated changes in the water cycle. Additionally, warmer temperatures

are expected to lead to more intense rain events, and increase the likelihood of droughts and floods.

NJDEP and Local Waterkeepers

In New Jersey, the Department of Environmental Protection has developed a productive and long-lasting relationship with our state's Waterkeepers.

In 2004, the *Athos I* oil tanker ran aground in the Delaware River and leaked an estimated 265,000 gallons of oil. Over the next months, the department's Watershed Watch Volunteer Monitoring Program worked closely with the Delaware Riverkeeper to monitor and assess impacted segments of the river. Volunteers reported these problems to the department to assist with clean-up efforts. This data continues to be used for assessing long-term impacts to natural resources.

In 2002, the department initiated the Waterways Enforcement Teams in conjunction with our Waterkeepers and other cooperating organizations to strengthen our enforcement efforts. Waterway Enforcement Teams in Northern and Southern New Jersey were established to address concerns voiced by environmental groups regarding the accessibility and ability of enforcement staff to focus on their priority areas. The teams are comprised of land use, water and waste inspectors who partner with local Waterkeepers and environmental groups to conduct boat and foot surveillance of

selected waterways throughout the state looking for solid waste, water and land use violations.

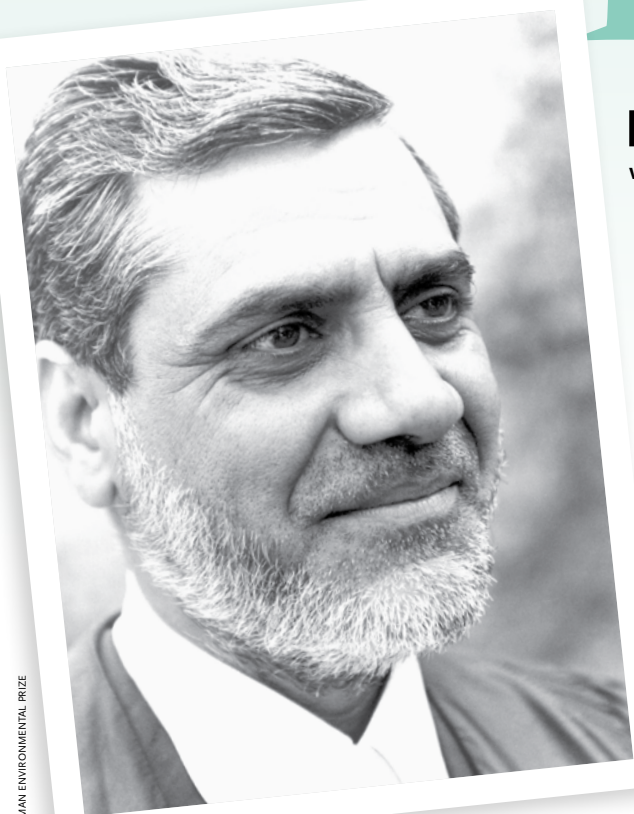
Another productive partnership with our Waterkeepers involved the case of the Passaic River. Occidental Chemical Corporation discharged a form of dioxin known as 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), one of the most toxic chemicals ever developed, and other contaminants from a Newark plant into the lower Passaic River. Because of tidal movement, the high concentrations of dioxin in sediment are an ongoing source of contamination to other areas of the river and the New Jersey/New York harbor estuary.

The department continues to be frustrated with the slow pace of the EPA's cleanup of the contaminated site, but Waterkeepers have been helpful in educating the public about the problem and keeping it in the public eye. The state's partnership with Waterkeepers also built credibility in our argument to clean up the contamination. Together our voices have been much more effective. Andy Willner and Bill Sheehan remain important allies in our struggle to restore the river.

Partnerships with organizations like members of Waterkeeper Alliance allow us to leverage the abilities of these public interest organizations with the abilities of government and individuals. I look forward to continuing our strong working relationship as we work together to protect New Jersey's environment for future generations. **W**

Greening

India



GOLDMAN ENVIRONMENTAL PRIZE

M.C. Mehta

Often referred to as the one-man environmental brigade, M.C. Mehta has battled India's worst environmental offenders in the Indian Supreme Court and emerged victorious. The 1996 Goldman Prize winner speaks to *Waterkeeper* about his work, the environment and what it takes to create meaningful change.

MALIK: Mr. Mehta, you are one of the most widely-recognized and highly-esteemed environmental lawyers in the world. How did you find your way into this work?

M.C. MEHTA: I was at a social gathering one day when a stranger approached me and said, "I have a poor opinion of lawyers today. They don't care about anything be-

sides making money." I looked at him and said, "What is your problem?" He said, "The Taj Mahal is dying. It is losing its luster and no one cares."

I went home very perturbed. I always believed that lawyers had ethics and the responsibility to be good, conscious citizens. I began reading about the Taj and was fascinated by the human skill involved in its creation. But then I also read about the foundries, chemical industries and refineries that were throwing thousands of kilograms of toxins into the atmosphere hourly.

I thought, "If the Taj can get marble cancer, what is the fate of human beings, who are much more susceptible to pollution?" From there I filed my first environmental case in 1984 in the Supreme Court of India. It was very risky because public interest litigation was not common in India at that time.

MALIK: You defended many social justice cases before defending your first environmental case. Were the environmental cases a logical progression of the social justice cases you handled?

MEHTA: People often speak about human rights as if each right exists in a separate category. They speak of the women's rights, children's rights, worker's rights and so on. I believe that all of these things are interrelated. At the top of everything is the environment. If we are not living in a safe environment and we are not breath-

ing fresh air, drinking clean water, eating safe food, then we cannot be healthy strong citizens regardless of who we are.

MALIK: Many of the cases you argued were based on the Indian Constitution's "Right to Life." Could you tell me more about why you used this article to argue for a "Right to a Healthy Environment"?

MEHTA: In 1984 someone had thrown a match into the Ganga, India's holiest river, and it burst into flames. The level of effluents from polluting factories was so great that the fire stretched one mile and reached 20 feet high. I filed a case the following year against some of the factories. It was a landmark case because the Supreme Court agreed that the "Right to Life" really means that we should live a life with clean air to breathe, safe water to drink and natural resources to enjoy. Only then can a citizen remain healthy and that is the real "Right to Life."

MALIK: The Waterkeeper movement is rooted in the Public Trust Doctrine, the principle that the shared environments, the water, air, fisheries and commons belong to the public. Can you tell me how the Public Trust Doctrine has been used in India to protect the environment?

MEHTA: The Public Trust Doctrine has become the law of the land in India. This happened in one of my cases after I challenged the former Minister of Forests and Environment. He owned a motel on the banks of Beas River in north India. The minister diverted the course of the river to beautify his property. I challenged him in the Supreme Court, because if everyone did this, natural resources would only

be available to the few, and all others will be deprived of them.

The court ordered that the Public Trust Doctrine will be the law of the land, and said that public resources cannot be used for private purposes. These public resources are gifts of nature for all living beings. The river which was diverted was to be restored to its real glory.

MALIK: India has very strong environmental laws on the books, and in some cases, more advanced than any nation in the world. However, there is a huge gap between the laws on paper and respect for the law. As citizens, how do we work to bridge that gap?

MEHTA: Yes, these laws are toothless wonders in many ways. I believe that the government of India and the state governments will never be able to protect the environment as long as they are playing in the hands of the big and vested interests. Unless they change their policies and attitude towards the environment, they will not be able to protect it. The government should be pro-people, pro-environment and pro-natural resources.

I've also realized that the environment cannot be protected unless it is a people's movement. It is very important that lawyers, non-governmental organizations, legislators, parliamentarians and our leaders are sensitized about these issues. If people become aware and know what is happening to their life and health, then people will raise their voice. Once they raise their voice, the government will think green. If the people are empowered through information, through knowledge, through education, then they will be able to counter the mighty industrial and political giants.

MALIK: India is fascinated by growth and industry. How do you deal with some of the criticism that comes from individuals who believe that as an environmental advocate you are against development and industry?

MEHTA: I am not against development at all, but this development should be sustainable. I have seen industries that were polluting, and are now running short of the resources they need to run their operations. These same facilities now bring

water from 100 to 200 miles away and are realizing that their activities are unviable. The individuals who run the industries, they need oxygen to breathe and they need water to drink. All of us need natural resources to survive.

MALIK: Right now India's waterways are facing extinction because of pollution, dams, privatization, over-extraction and climate change. Is there an issue that concerns you most?

MEHTA: The situation in the entire country is very bad. All of our rivers, lakes and groundwater are polluted beyond contamination. All of the issues are important, whether it is dams, climate change or pollution. I am concerned about all the issues because we really can't afford to keep quiet about anything.

MALIK: After winning the Magsaysay Award, you used the prize money to set up the M.C. Mehta Foundation. Could you tell me more about the activities of the foundation?

MEHTA: We have worked with over 500 non-governmental organizations on environmental issues, sharing our experience in environmental law, information and policy. These organizations are the nation's hope for the protection of the environment. We also train young lawyers from India, Nepal, Pakistan, Sri Lanka and Bhutan. We organize conferences and talks and host an eco-camp for children. These children are taken deep into the Himalayas, to see the flora and fauna, to see the animals so they can create a bond of affection toward the environment. We are working in many different areas and are doing whatever is possible.

MALIK: Who are some of the individuals or thinkers that have influenced you the most?

MEHTA: There are many, many people who have influenced me. I don't think it is a question of confining it to a few individuals. People who do social service work or environmental work have had the greatest influence on me. And, in our country we have many people who are poor and illiterate, but are protecting the environment and the people in their own humble way, at the pure grassroots level. These people

I've also realized that the environment cannot be protected unless it is a people's movement.

have had a profound influence on me. They have carried a wealth of knowledge for generations and they are trying to pass it down to future generations. They understand that there are great challenges coming our way. Our politicians and many of us can learn a lot from them.

MALIK: What are your visions and hopes for India's environment?

MEHTA: I want India to realize its own greatness. We have a rich culture, with tradition, wisdom and knowledge that has been passed down through centuries. The country is still very vibrant in its own way. But it will become even greater if we come back to our own ways. We should not copy the Western model of development. My dream is also that the younger generation comes forward. The politicians have a very old way of thinking. The younger generation should replace the older generation, and they should be really dedicated to the cause.

MALIK: Would you like to offer any words to our Waterkeepers in India?

MEHTA: I have a deep respect for those who are involved in the conservation of water and the protection of rivers. All civilizations have been groomed upon the banks of rivers. The work that they are doing is really important and in working on these issues they are bringing forward the truth, and this makes me very, very happy. **W**

THE Clean Coal CON

Since 2000 the coal industry has contributed millions to political campaigns. The industry's investments in politics have paid huge dividends.

Now, under the guise of "clean coal,"

all of our 2008 presidential frontrunners support subsidizing coal companies with billions of dollars in taxpayer money — corporate welfare for one of the dirtiest industries on earth. **Our unbridled use of coal is killing us and our environment; coal will never be safe and it will never be clean.**

**By Scott Edwards,
Legal Director,
Waterkeeper Alliance**

The past six years of political "leadership" in the White House has wreaked unprecedented havoc on our country's environmental health. The onslaught on our nation's environmental laws and regulations for the greater glory (and profit) of the American energy industry has been relentless. Unfortunately, just as ecologically-minded Americans look desperately towards the 2008 presidential elections for positive changes in the environmental landscape, disturbing messages are being sent from both sides of the aisle, signals that perhaps no leading candidate is going to provide the environmental leadership that this country so urgently needs.

Over the past seven years President Bush and his Environmental Protection Agency, Department of the Interior and Mine Safety and Health Administration have given a free pass to the coal industry to ignore safety and the environment. Mines operate despite safety violations that put miners at grave risk. Federal law is twisted to allow coal companies to blow up mountains and bury streams with rubble, undercut and destroy homes and farms, and decimate our rural landscapes. Noth-

ing stands in the way of the never-ending search for coal to burn in our nation's 1,100 coal-burning power plants. And to preserve this legacy into the future, the Bush administration and coal companies have rallied their immense influence to promote a confused belief in "clean coal" as an acceptable and viable part of our nation's energy future.

Despite the utopian promise of advanced technologies that scrub CO₂ and other toxins out of coal smoke, coal is never clean. From cradle to grave coal devastates the environment and human health. Coal mining destroys our mountains and pollutes our precious drinking water. Transporting coal spreads toxic coal dust and produces sludge that ends up in our waterways. Mercury pouring from the smokestacks of power plants poisons our waterways and fish — EPA estimates that 410,000 newborn infants are born each year with dangerous levels of mercury in their blood. Miners and their families live in fear of mine collapses and slurry impoundment failures that can wipe out river valleys for miles, and any homes or communities in the way. And at the end of the destructive day, piles of coal combustion waste leech arsenic



GILES ASHPOLE

and selenium into our drinking water. Even if you believe that burning coal could be made clean — mining, transporting, processing and disposing of coal waste never will be.

Nor will it ever be cheap. We pay dearly for its use in so many hidden and unaccounted for ways. The ecological and human health costs — the devastation of our natural landscapes, the contamination of our water resources, the loss of our fisheries and the neurological impairment of our children — makes coal perhaps the most expensive source of energy we have.

Yet the “clean coal” con flourishes thanks to the same formula that has driven so many of the Bush administration’s other disastrous environmental policies: rhetorical sleight-of-hand, fear mongering and a false sense of patriotism. No longer do we talk about switching to renewable energy sources. Instead, our political leaders talk of developing “alternative fuels” — which include both coal and nuclear power. The new catch phrases driving this misguided shift are “energy security” or “energy independence” from foreign sources of fuel. Recent ads from Peabody Energy, the world’s largest coal corporation and one of the world’s biggest polluters, urge the public to “imagine a world where our country runs on energy from Middle America instead of the Middle East.” Corrupted public officials and the coal industry are working hand-in-

hand, orchestrating a “clean coal” dog and pony show to drive corporate profits and pull the wool over the eyes of the American people.

And leaders who should know better are buying it. The frontrunners on both sides of the aisle each support handing over billions in taxpayer dollars to the coal industry. A recent article in *The New York Times* cites wide bipartisan support for an “energy independence” bill that will funnel billions of dollars in corporate welfare to the coal industry, touting coal as the “king of alternative fuels.” So even as we finally recognize the folly of our reliance on oil, we’re simply handing over our future to another equally dirty industry — changing our drug of choice instead of curing our addiction to harmful energy sources.

True environmental leaders recognize that it’s time to move away from destructive and inherently dirty fossil fuels like oil and coal. What we need is a strong commitment and public investment in clean, renewable energy sources. “Energy independence” should mean freedom from pollution, denuded landscapes, toxic fish, poisoned water and corporate manipulation of our nation’s energy policies. Wind, geothermal, solar — that’s where our taxpayers’ dollars should be going, not to coal. Our candidates need to wake up to the dark future that coal brings and offer real clean energy and environmental leadership. [W](#)

One of several daily scheduled explosions at a mountaintop removal coal mine in West Virginia.



Sludge BUSTERS

By Doug Martz, Saint Clair Channelkeeper

I live on Lake St. Clair, the most beautiful freshwater lake in the world. I was out on that lake spring, summer, winter and fall. I couldn't get enough of it. I was an avid fisherman. It was my way of life...

One day in 1994, I was working on the Clinton River, childproofing my friend John's backyard when a rainstorm hit. Rainstorms, of course, are pretty normal events, but I'll never forget this one. The river turned dark brown and, two hours later, raw sewage, condoms and tampons were piled up seven feet thick along the boat tied up behind the house. The air smelled like rotten eggs and my eyes started watering. I couldn't breathe.

It turns out a nearby sewage treatment plant had dumped 300,000 gallons of sewage into the river because the sewer system could not withstand the rains. Within two weeks, all that sewage had flowed into Lake Saint Clair. Seaweed sprouted like it had been sprayed with Miracle-Grow, inundating the shoreline. The stench was awful — rotting weeds and sewage.

I went to an emergency meeting in City Hall with hundreds of residents to find out what was going on. The official word from the Macomb County Commissioner was that the problem was the result of people throwing grass clippings in the river, and water quality's biggest nemesis — birds. I couldn't sit down any longer. "What about all the sewage that was dumped two weeks ago?" I asked. Finally, two state officials looked at each other and then said, "Oh yeah, by the way, during that rainstorm the city of Mount Clemens dumped 300,000 gallons and an Oakland County plant dumped another billion gallons of raw sewage into the river." The audience listened in shock.

In the days that followed, the paper never mentioned anything about sewage overflows. I started attending more hearings, and the only support I had was from health department officials who handed me stacks of paper and reports on sewage overflows at wastewater plants on the river. They were scared to speak out, but they knew I would.

In 1994, the lake shoreline was closed to swimming for the entire summer. The seaweed was floating three feet deep. People would blow their engines trying to get through this stuff. It got so bad that the governor flew in and hired a crew with barges and cranes to scoop the muck up and haul it away. The project cost \$3 million.

My friend John, whose yard I had been childproofing, worked his whole life to have a beautiful boat and home on the water. He had a wife and five kids and he loved where he lived, just like I love where I live. We would attend these meetings and hear the same old story — but nothing about the real problem. We were talking about what we could do to get the real story out to the public. Then it hit us. Each August our community has a parade of lights that attracts about 200,000 people. Residents turn their boats into all sorts of beautiful designs.

We decided we would enter the parade in John's 36-foot boat. Our design — a toilet.

We found a nursery that had 30,000 lights left over from Christmas. The owner of the store offered them to us for \$1,000. We asked a welder to build a toilet frame on the boat. He looked at us like we were nuts, but when we got pictures of toilets out, he said, "Yeah I can weld something up out of chicken wire to hang lights on." He welded the monstrosity over the top of the boat. But it didn't look right. He said, "We need a seat." He welded it and we added an additional 2,000 green lights to make it stand out. It took us ten days with the help of ten volunteers to hang all the lights. And when we plugged the lights into my 5,000 watt generator, they blew the generator right out. After consulting an electrician, we rented four more 5,000 watt generators and put all five in a Boston Whaler that we towed behind the boat.

Though the toilet looked spectacular, it needed some more life. John's kids put on rain suits and gasmasks to dance inside the toilet bowl. We went to a funeral home and bought a casket, loaded it up with kids beach toys and fishing poles. We dressed up a friend as the grim reaper in a black suit and sickle. He stood on the back of the boat with that big casket. We chose the theme of Sludge Busters, after the popular *Ghost Busters* movie. We even redubbed the *Ghost Busters* theme music so it said, "Who you gonna call, Sludge Busters!" and hooked up John's stereo to the boat. We had a sign made that said *Stop the Flow Before It's Too Late*. Now we were ready to register the boat for the parade.

When the parade managers asked us what our theme was, we told them it was a toilet. "We can't let you in the parade," they said. "It's supposed to be a South Pacific theme." I said that we would ride down the river no matter what, because legally, the river was navigable and open to the public. The parade officials gave in.

The night of the parade, when we fired up the Sludge Buster, it was unbelievable — 32,000 lights, music blaring and kids dancing inside the toilet bowl. We went down the river and people just

The night of the parade, when we fired up the Sludge Buster, was unbelievable — 32,000 lights, music blaring, kids dancing inside the toilet bowl.



St. Clair Channelkeeper Doug Martz with wife Patty.

ST. CLAIR CHANNELKEEPER

cheered. Meanwhile, the township supervisor and the judges were appalled. But we ended up on all the TV stations and the front page of all the local newspapers. A few weeks later we entered the Sludge Buster in another parade in a community downstream. A marina owner hid it in his marina for a surprise appearance. We floated down the river once again, lights glowing, music pumping and kids dancing inside the toilet bowl with plungers in their hands. And to our surprise, out of the 110 boats in the contest, we came in third and took home a \$1,500 prize.

We finally felt like we were making a mark, but the newspapers still ignored the sewer overflows. The shore still smelled like sewage. By this point,

toot their horns wherever I went. We felt like the real *Ghost Busters* stars, Dan Akroyd and Bill Murray. And in just a few weeks we gathered 22,000 signatures on a petition against the dumping of raw sewage. But we still weren't done getting the word out.

Every Labor Day, the Michigan governor walks the Mackinac Bridge. That year President Clinton was going to walk with Governor Engler. Since the opposite side remained open for cars to drive over, we thought we would drive over the bridge alongside the governor and the president in our Sludge Busters mobile. We drove the 300 miles to the Straits of Mackinac. When we got to a town, we turned on the lights and the sirens, and every car around us would come to a halt as we drove through downtown. Even the police pulled over.

When the Bridge Walk began, we paid the toll and drove over the bridge six times. We used four quarts of oil to get up there and four more to get back. It was really not an environmentally sound car, but we made our point. And it worked. People cheered and the National Guard and state police waved. I thought we'd end up in jail, but we made it into all the news coverage that day.

Back home in St. Clemens, I kept receiving data on sewage spills from public officials, despite being seen as a troublemaker, or maybe because of it. I handed this data over to Carl Marlinga, my county prosecuting attorney. One day, he took me to his office and asked, "Where did you get all of this? Did you make these papers up?"

I told him what it was and where I had gotten it. We found out that the sewage treatment plant in Oakland County that had dumped a billion gallons hadn't had a Clean Water Act permit in 18 years. "I would like to sue Oakland County," Marlinga told me. "But you will have to come with me to the Macomb County Board of Commissioners. I'll need their permission." The next thing I knew, I was at the county board meeting and the County Commissioner asked me what I had to say. I had always been the crazy bastard running around town in a rusty limo with a toilet on the roof. Now I was explaining the grounds for a lawsuit against the neighboring county. The 26 members of the Board of Commissioners voted unanimously to sue.

The county put together a Blue Ribbon Commission on Lake St. Clair with the Governor's and Senator's offices, Congressmen, mayors, state representatives and professors. And I got an invitation to serve on the commission addressed to Doug Martz, Sludge Buster.

The Blue Ribbon Commission met for six months and came to the conclusion that the problem was sewage. After three years of fighting, that's what I was after. The commission made 100 recommendations, including a requirement that the



Toilet boat lit with 32,000 Christmas lights, complete with dancing children in the bowl, Sludge Busters signs and music.

no one could go to a restaurant in the marina. The stench was hurting homeowners, boaters and everyone along the shoreline. We needed something more. We thought, "What did *Ghost Busters* have that we didn't have?" The answer, of course, was an ambulance.

So I bought a 1972 Cadillac limousine. When I pulled in my driveway it almost ran through my house because the car had no breaks. But we fixed it up, bolted a toilet to the roof, put plungers on the fenders, and made a sign for it that read — *Fecal Front Properties, 444-sewer*. The sign company loved the idea and donated all the signs for the car. We mounted flashing lights and sirens and put loudspeakers on top of the car. We would drive down the road and blast the Sludge Busters music. The car became my family car. We would drive it to church and the supermarket, and people would give me the thumbs up, turn on their lights and



The Sludge Busters 1972 Cadillac limo was effective at generating attention for our waterway's sewage overflow problems.

Health Department check every tributary in the county so we knew where the sewage was coming from, and hire an environmental prosecutor to look at permits. The next step was to put together a Water Quality Board to advise the county as it implemented the commission's recommendations. I figured my mission was over now that they admitted the sewage problem. I could go back to my normal life.

I received an application in the mail to join the Water Quality Board but I didn't fill it out. But the next thing I knew, I received notification that I was on the board. Evidently, the county executive, the state prosecutor and a senator's office each filled out an application for me and sent it in. But it didn't stop there. At the first meeting of the Water Quality Board they decided they needed a chairman, and everyone pointed to me. I didn't know what to do. They handed me a mallet and I went up to the podium. I just stood there for a minute and then I hit the gavel down and said, "Health Department, do you have anything to report?" They started reporting the data they were collecting. This was in 1998. I've tried to quit three times and they keep telling me I've got the job for life.

Around that time I was talking to Carl Marlinga, the county prosecutor. He said, "Doug, I'm not going to be able to sue some polluters because I'll never get reelected. We need an independent group." A professor I knew from Oakland University had read the book *The Riverkeepers*. This professor said, "I'll fill out the application for Waterkeeper Alliance and send it in." Before I knew it, St. Clair Channelkeeper joined Waterkeeper Alliance, and I was appointed Channelkeeper, giving me another powerful tool to clean up the lake.

Next we went after combined sewer pipes with illegal connections and no permits. In one pipe, our worst, we've permanently eliminated 70 million gallons of raw sewage each year from entering the St. Clair. We busted a city with illegal overflow pumps that dumped raw sewage into the river ev-

ery time it rained. After we did that we sent a letter to the other cities in the county asking them to turn themselves in to us if they were dumping sewage. Six cities responded and took action to address the problem. Meanwhile the state saw what we did and put out their own letter to cities around the state — 213 cities turned themselves in. Sewage overflows were an epidemic. Each of these cities had to upgrade their sewer systems. It cost millions, but it has stopped many billions of gallons of sewage from reaching our waters every year.

Surely we were making progress. But unless you monitor the water, you can't really tell what's going on. I decided that we needed to give our watershed a complete physical. The price tag was \$2.5 million. I took the plan around for five years and finally convinced the state legislature. The state of Michigan allots \$3 million to monitor the waters of the entire state. We got \$2.5 million just to monitor one county. But we monitored every tributary on the St. Clair River in dry and wet weather. And today we have data on sewage overflows that's irrefutable. Now we know precisely what needs to be fixed.

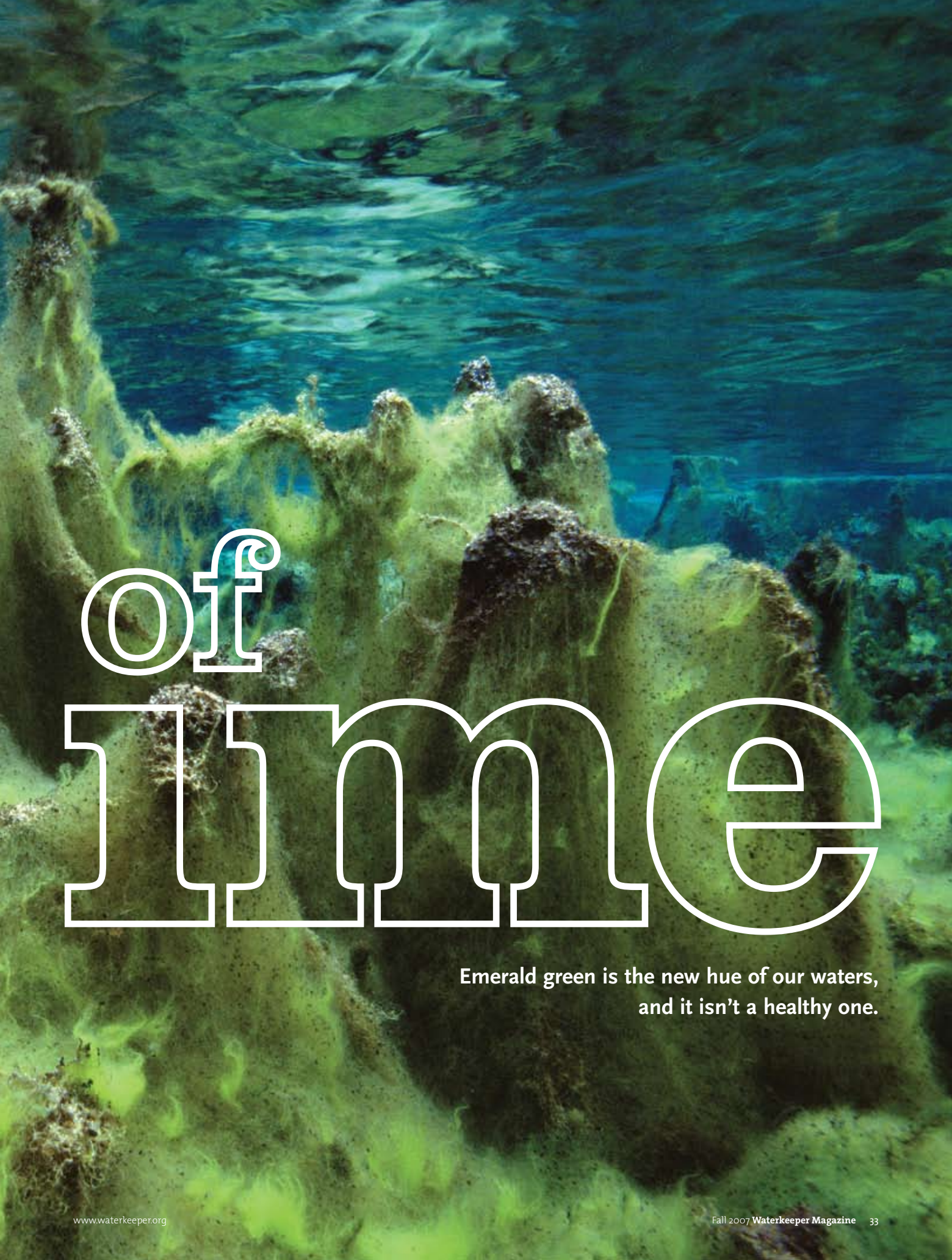
This year, the current county executive, the previous county executive and I decided it was time to do a new Blue Ribbon Commission. The last one was only for Macomb County. The new one would be regional, and include Macomb, Oakland, St. Clair, Wayne Counties, plus the City of Detroit, Canadians across the St. Clair River and the Native People of Walpole Island. This new panel, with three nations and four counties, will start meeting this fall to develop new regional water quality plans to keep our Lake St. Clair open.

Our entire fight started with a group of friends who knew we needed to get the word out about pollution. We made a serious problem seem humorous so the public would know what was going on. And because of our efforts, Macomb County and the State of Michigan now take sewage very seriously. **W**



THE ● rise 1

Undisturbed algae, Blueheart Springs, Snake River, Idaho. This fall photographer Alex Kirkbride will publish *American Waters*, a collection of photographs from all 50 states, available at www.alexkirkbride.com

An underwater photograph showing a structure, possibly a pier or breakwater, heavily encrusted with bright green, fuzzy algae. The water above is a deep blue-green, with light reflecting off the surface. The algae covers most of the visible structure, with some darker, more solid material visible in patches.

of time

Emerald green is the new hue of our waters,
and it isn't a healthy one.

The Consequences of Overfeeding our Oceans



Too much of a good thing.

Nutrient pollution spurs the growth of algae.

By Mary M. Cerullo and R. Michael Doan,
Friends of Casco Bay

»NITROGEN POLLUTION is on an insidious rise and is changing the very ecology of our oceans. We pump so much nitrogen into the ocean that the diverse array of microscopic plants that form the base of the food web are being replaced by nitrogen-devouring blue-green algae. And when life at the bottom of the food chain experiences such a dramatic shift, the entire system changes, all the way up to animals we like to eat, like scallops, clams, lobsters and fish. The constant deposition of nitrogen to our oceans is changing the fundamental structure of our marine ecosystem in ways we can't predict, but are apt not to like.

Nitrogen is everywhere. It makes up 78 percent of the air we breathe and it is an essential nutrient that stimulates the growth of terrestrial plants. Healthy amounts of nitrogen are needed to jumpstart the growth of tiny plants that form the base of the ocean food chain, which nurture fish, clams, oysters, crabs, lobsters and whales. Rivers wash melting snow and rain, and the nutrients they carry, into our waters in a natural process that provides the ocean food web with a balanced diet, an alphabet soup of nutrients. Plants bloom, animals eat the plants and smaller animals are eaten by bigger animals. When all these organisms die, they are broken down by bacteria, recycling the nutrients to support the growth of new marine life.

But an overdose of nitrogen has tilted the cycle of life dangerously off balance. This overdose is killing the ocean as we know it. Two recent assessments of the health of the coastal oceans by the U.S. Commission on Ocean Policy and the Pew Oceans

© MIKE CALVO/LAAMY



An Evolutionary Step Backward

Moon jellies in the Caribbean Atlantic Ocean. As oxygen levels plummet jellyfish and other animals and plants adapted to low-oxygen environments take the place of the diverse, rich variety of sea life that used to thrive there. Scientists have called this shift “the rise of slime.”

Commission agree that nitrogen is a principal threat to the marine environment. Too much nitrogen triggers excessive growth of nuisance, even harmful, seaweed and algae. This organic matter eventually decays, consuming the oxygen dissolved in the water. And when dissolved oxygen goes, so does life.

Consider the Source

Although nitrogen is extremely abundant in our atmosphere (about four times more plentiful than oxygen), only a fraction of the nitrogen on earth is in a form that is available to plants. A century ago, natural fixation by species of algae and leguminous plants, and lightening strikes, were the only way that the gaseous nitrogen could be converted to a form that could be used by plants. The absence of nitrogen limited plant growth on land and in the water.

In the 1950s, scientists were working to remove this limit to feed the burgeoning human population — enter the green revolution. By applying high pressure and temperature they were able to produce mass quantities of nitrogen fertilizer from nitrogen gas in the atmosphere. Today humans make as much nitrogen available to growing plants as Mother Nature does. This ability to manufacture large quantities of fertilizer has led to an imbalance of nitrogen in our environment.

Some of this excess nitrogen reaches our crops, but much of it pours into our coastal waters from rainstorms washing excess fertilizer from neighborhoods and farms. Nitrogen also seeps out of septic tanks and pours from sewage treatment plants and sewage overflow pipe discharges into our water-

ways. Emissions from tailpipes and smokestacks also introduce nitrogen into the ocean through atmospheric deposition.

Fast-growing algae are best adapted to take advantage of the excess nitrogen we are adding to our oceans. When the bumper crops of algae die, bacteria suck up the oxygen as they break down the detritus. This process creates dead zones where levels of dissolved oxygen are so low that they stress or kill marine life. Around the world there have been nitrogen-induced low oxygen events — called hypoxia — where fish have died by the millions or billions.

Today's Oceans

The number of dead zones in the ocean has been doubling every decade since the 1950s. The largest, in the Gulf of Mexico, is result of nutrient pollution from the Mississippi River and extends from the coast of Louisiana to Texas. It varies from 6,000 to 7,000 square miles, roughly the size of New Jersey. Commercially desirable fish leave these hypoxic dead zones.

Animals that are adapted to living in low-oxygen waters, such as jellyfish, appear to do fine in these dead zones. Moon and lion's mane jellies are appearing in greater numbers and earlier in the season in Maine's cold waters. As a result of a glut of jellyfish in 2002 that threatened salmon farms and swimmers alike, the Canadian province of Newfoundland and Labrador commissioned a study to assess the feasibility of developing a new fishery for jellyfish. Newfoundland's fisheries department hoped that the stinging sea creatures could be harvested commercially for sale to Asian markets,

The ocean is in my blood. I always felt that we could sustain and protect it, but now I am terribly worried.

The whole ocean ecosystem is under attack, and no one seems to be paying attention. All the signs are there.

Manatees with blood streaming out of their noses are washing up on the coast of Florida. Crazy sea lions are biting people in San Francisco. Fishermen off the coast of North Carolina are pulling up nets filled with thick swarms of jellyfish. Right here in Casco Bay, some clam-flats are so thick with green slime that mussels and clams are being smothered. What will it take to get people to act?

Casco Baykeeper Joe Payne



Casco Baykeeper Joe Payne has devoted his career to finding reasoned, science-based solutions for environmental threats to his part of the ocean realm, Casco Bay, a beautiful, bustling estuary in southern Maine.



A sign posted at Walker Creek in Essex, Massachusetts, prohibits shellfishing due to red tide in June 2005. That summer Governor Mitt Romney declared a state of emergency, allowing the state to seek federal disaster aid for the devastated shellfish industry.

AP PHOTO/LISA POOLE



Animals that feed on these small aquatic organisms, such as birds, larger fish and marine mammals are affected by toxic algae. Eighty-eight manatees along the west coast of Florida died from red tide in 2005. They breathed the concentrated brevetoxin fumes at the water's surface, which caused neurological and respiratory damage. This aerial view shows Coquina Beach, Florida, with an algae bloom in August 2006.

AP PHOTO/TAMPA TRIBUNE-NEWS CHANNEL & PAUL LAMISON



The Birds

On August 18, 1961, the *Santa Cruz Sentinel* (California) reported, "A massive flight of sooty shearwaters, fresh from a feast of anchovies, collided with shoreside structures from Pleasure Point to Rio del Mar during the night. Residents... were awakened about 3 A.M. by the rain of birds slamming against their homes... When the light of day made the area visible, residents found the streets covered with birds. The birds disgorged bits of fish and fish skeletons over the streets and lawns and housetops, leaving an overpowering fishy stench."

The newspaper noted in a brief article three days later that the Hollywood producer Alfred Hitchcock, who owned a home nearby, had requested a copy of the article as research for his latest thriller. It seemed that he was preparing to film a short story by mystery writer Daphne DeMaurier that, ironically, dealt with an attack by millions of birds on a town in the England countryside. Hitchcock sited his classic movie, *The Birds* (1963), in a seaside California community.

Scientists have attributed the probable cause of the bizarre behavior by seabirds near Capitola to domoic acid poisoning from a red tide algae bloom.



LONG ISLAND SOUNDKEEPER

Waterkeepers around the U.S. operate pump out boats, collecting sewage from pleasure boats at marinas and at anchor. Long Island Soundkeeper operates five pumpout boats in cities along the sound. Last year alone, Soundkeeper's Clean Boater Program prevented 40,000 gallons of raw sewage from entering Long Island Sound. Pumpout boat operators — including Jack Backer, pictured — play an important role by providing pollution prevention education to yacht clubs, commercial passenger boat captains, civic groups and the media.

which use processed jellyfish in a variety of meals. A similar shift away from traditional fisheries, such as shrimp, to jellyfish has also been considered along the Southeastern coast of the United States. With traditional fisheries disappearing, we may not have any choice but to develop a taste for jellies.

Some scientists have compared today's nitrogen-polluted waters to conditions in the primordial seas, when primitive life such as bacteria and jellyfish predominated. Jeremy B.C. Jackson, of Scripps Institution of Oceanography, calls this pattern of evolutionary regression "the rise of slime."

Commercially valuable fish and other marine life are not the only ones to go; plant life that thrives in clear, clean ocean water is also disappearing. Sea grasses, for example, are the ocean nursery grounds for two-thirds of all commercially and recreationally important marine species. Sea grass beds are disappearing in many places, as they are shaded out by algae. Waquoit Bay in Massachusetts is a prime example of the problem. Since the 1950s, research on eelgrass and nitrogen pollution has allowed scientists to document the steady loss of important aquatic habitat. The connection is quite clear, as nitrogen pollution increases, eelgrass beds disappear. Today, eelgrass beds cover only a fraction of their historical area. In nearby Buzzards Bay, 65 percent of the historical eelgrass beds are gone. This loss of critical habitat has ramifications throughout the food web.

Some of the algae that are blooming contain potent poisons that can kill. Harmful algal blooms, commonly called red tides, are increasing around the world. Their proliferation can be blamed at least partially on nutrient pollution. Red tides

have closed the U.S. Northeastern coast to shellfish harvesting in recent years. These closures and outbreaks of toxic microorganisms have created severe financial hardships for commercial fishermen and are a threat to coastal communities. Joe Payne talks about the "snowbirds," people who escape Maine's frigid winters and muddy springs by retreating to the coast of Florida. Some return home to the Northeast coughing and complaining of cold-like symptoms. What they are likely experiencing are the lingering effects of brevetoxin exposure, an airborne toxin found in red tides on the west coast of Florida. When there is a red tide outbreak, coastal communities see a stark rise in emergency room visits.

Domoic acid is an example of harmful, microscopic algae at its worst. Exposure to the powerful toxin that this algae produces causes memory failure, disorientation and even death. Domoic acid was first identified in 1988 when four Canadians died after eating contaminated mussels from Prince Edward Island. Survivors suffered permanent memory loss. Their illness is now called amnesiac shellfish poisoning. This same harmful algae caused the deaths of 21 large whales in the Gulf of Maine in July of 2003 and was suspected to have poisoned at least nine whales and dozens of seals along the coast of Maine later that same year. Domoic acid is now widespread throughout U.S. waters, from New England to the Gulf of Mexico and up the West Coast all the way to Alaska.

What can we do about it?

Americans have a love affair with the coast. More than half the U.S. population lives in coastal coun-

ties. Ocean managers and environmental advocates like Waterkeepers recognize that excess nitrogen in coastal regions is one of the principal threats to the environmental health of the oceans, but until everyone else recognizes this too, our coastal waters will continue to deteriorate. Joe Payne notes, “Coastal development has taken away the wetland plants that filter out the nitrogen before it gets into the ocean. Our activities directly impact the very resource we are crowding ever closer to enjoy.”

Data collected by Casco Baykeeper in its long-term water quality monitoring program was essential to identifying and documenting the problem. “You can’t convince elected officials, the general public and even other researchers that we are facing a serious nitrogen dilemma unless you have the data to back it up.” Using this data Casco Baykeeper pushed for a state law setting legal limits for nitrogen and other nutrients.

In June 2007, Maine enacted the law and directed the Maine Department of Environmental Protection to set nutrient limits for coastal waters in state law. The legislation, written by Friends of Casco Bay, instructs the department to work with wastewater treatment facility operators to figure out how to reduce nutrient pollution from sewage treatment plants.

Casco Baykeeper has also encouraged municipalities and ocean-going vessels to stop pollution before it starts. Casco Baykeeper has kept pressure on municipalities to remove their combined sewage overflows, which divert nitrogen-laden stormwater and raw sewage into the bay during heavy rains. And since 1995, Friends of Casco Bay has operated a pumpout boat that visits marinas and moorings to remove sewage from recreational boats. It has emptied more than 5,500 marine toilets, preventing 95,000 gallons of sewage from entering Casco Bay. During the same time, we have worked with marinas, town landings and boatyards, offering technical advice and encouragement to increase the number of shoreside sewage pumpout facilities.

Community education and outreach, such as Casco Baykeeper’s BayScaping campaign, also proves effective in stopping nitrogen from reaching our waterways. BayScaping encourages homeowners, municipalities and businesses to reduce their use of fertilizers and pesticides. Developed in partnership with the Maine Board of Pesticides Control, BayScaping recognizes the connection between your lawn, stormwater and downstream waterways. Homeowners who follow a six-step plan of environmentally-friendly lawn care can become certified BayScapers. “Most homeowners don’t realize that what they put on their lawns often ends up in the ocean. Many don’t even know that the lawn and garden products they use con-

tain different pesticides and fertilizers. BayScaping teaches homeowners how to grow a healthy lawn without chemicals.”

Over the course of the campaign, Casco Baykeeper has found that most people want to do the right thing. When people know their wastes are destroying the oceans, they are eager to find solutions. **W**



Beware Phosphorus!

Nutrient pollution — primarily phosphorus — is a problem in freshwater. Toxic algae plaguing the Great Lakes and other lakes and streams across the country have health officials warning residents to keep their pets and themselves away from the water.

Just as marine systems are limited by nitrogen, primary productivity in freshwater systems is limited by phosphorous. Most phosphorous is found as a component of rock, which over time weathers and is released into the environment, where it becomes available to plants as a nutrient. Phosphorous is extremely critical to life on earth. It is a primary part of DNA and ATP, the “energy currency” of all living things. Sources of excess phosphorous include fertilizers, wastewater, agricultural runoff and detergents. Excess phosphorous in the aquatic environment stimulates algae blooms.

A new Maine law restricts the sale of phosphorus-containing fertilizer. Beginning in 2008, retail stores must post a sign that indicates that fertilizers containing phosphorus threaten water quality of nearby lakes and rivers. It recommends that consumers avoid using fertilizer that contains phosphorus unless the user has done a soil test that shows that additional phosphorus is needed. Proponents had hoped to place a ban on selling lawn fertilizers containing phosphorus unless there was a proven need, such as if the purchaser is establishing a new lawn or reseeding an existing lawn or turf. Unfortunately, the law is just an educational message to consumers and lawn care professionals and does not contain enforceable restrictions on the application of excess phosphorus. Does your fertilizer have phosphorus? Look at the middle number describing the fertilizer blend (N-P-K); it should be zero.

In 2002, Minnesota became the first state in the nation to regulate the use of phosphorus fertilizer on lawns and turf. New Jersey, Florida, Wisconsin and Michigan have local ordinances.

Waterkeepers Chesapeake

By Michele Merkel, Chesapeake Regional Coordinator

Ninety percent of Chesapeake Bay and its tidal waters are impaired from nutrient pollution. In the Chesapeake 2000 Agreement, leaders from Virginia, Maryland, Pennsylvania, the District of Columbia and the federal EPA pledged to get the bay off EPA's list of impaired waters by 2010. Current predictions for meeting this goal are dire.

»EVERY YEAR nearly half the Chesapeake Bay has too little oxygen to support most aquatic life, creating a dead zone stretching for hundreds of square miles. The Chesapeake Bay Program, a federal-state agency charged with directing bay restoration, recently reported that there are no prospects of likely recovery. They predicted continued harmful algal blooms causing beach closures and fish kills like the one this June that caused 7,000 menhaden to go belly up in the Baltimore Harbor. Why have the federal and state governments given up on the bay?

We know what the problem is. We know what the solutions are. Stop nutrient pollution from industrial agriculture, sewage systems and stormwater runoff from reaching the water. We have piles of reports and initiatives, strategies and assessments. Now it's time to start at the top of the list and cut the sources of pollution. With government moving at glacial speed, the Waterkeepers Chesapeake are picking up the pace of our efforts to protect the bay from nutrient pollution using litigation, regulatory and legislative strategies.

Keeping Waste Out of the Bay

Earlier this year, Shenandoah Riverkeeper, Potomac Riverkeeper and Waterkeeper Alliance put two companies, Pilgrim's Pride Corporation and Cargill Meat Solutions Corporation, on notice that we will sue them for dumping poultry waste into the North Fork of the Shenandoah River in Timberville, Virginia.

PPC and Cargill send 360 million gallons of poultry processing waste to the failing SIL wastewater treatment facility each year. In 2005, the

SIL facility exceeded their phosphorous pollution limits by an astounding 900 percent. Tests showed phosphorous levels in the river 140 times greater below the outflow for SIL than above. These violations continued into 2006. As a result of the notices of intent to sue, the Virginia Department of Environmental Quality stepped in and is requiring the facility to install treatment technology that will slash pollution.

However, the Shenandoah and Potomac Riverkeepers' work is far from over. The Virginia Fish Kill Task Force recently hypothesized that poultry litter is a likely contributor to the substantial number of fish kills that have occurred each year since 2004 in the Shenandoah River.

To the North, in Pennsylvania, the Lower Susquehanna Riverkeeper is also hard at work tackling industrial agriculture. Earlier this year, the Lower Susquehanna Riverkeeper and Penn Future threatened to sue five industrial agriculture operations for operating without a Clean Water Act permit. Those actions compelled three of the facilities to obtain permits. One of the facilities chose to reduce their livestock below numbers that require a permit. The fifth facility is still under the Riverkeeper's watchful eye — they claim that their facility is really two separate facilities, neither of which is large enough to require a permit. More recently, Lower Susquehanna Riverkeeper in coalition with other state groups successfully pushed Pennsylvania legislation that makes tax credits available to farmers and businesses who install conservation projects that reduce water pollution.

Waterkeepers Chesapeake are also working to keep human waste out of the bay. One of the primary sources of nutrient pollution in the West and Rhode Rivers is from recreational boaters. Because the Coast Guard and the state have failed to enforce the laws that prohibit the dumping of wastewater from boats, the West and Rhode Riverkeeper decided to take matters into his own hands, convincing the city of Annapolis to donate a pump-out boat. With operating assistance from the state and with help from many volunteers, the West and Rhode Riverkeeper now operates the pump-out boat "Honeydipper" on the West and Rhode Riv-

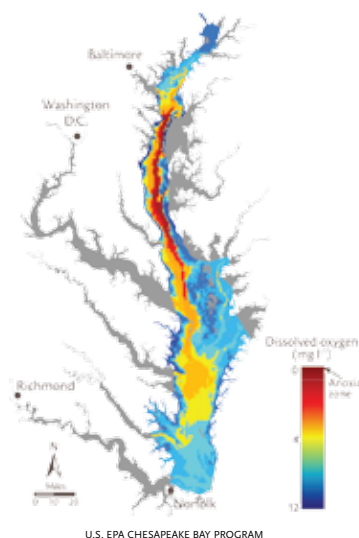


SOUTH RIVERKEEPER

Algae bloom at Betterton Beach on the Sassafras River, MD. This algae, *microcystis*, produces a toxin that can cause illness, including gastroenteritis, and has killed livestock and pets.

Good News?

EPA predicted a 'moderate' year for the Chesapeake's anoxic dead zone. Little comfort for fishermen, boaters and wildlife of the bay. Hint: the blue water is healthy and safe.



ers. As of August 1, 55 boats had been serviced by the Honey Dipper, properly disposing of more than 1,000 gallons of sewage.

Protecting the Bay from Urban Development

Stormwater runoff has a significant impact on water quality in the Chesapeake. This spring the Maryland legislature passed the Stormwater Management Act, which will drastically change how developers plan for and handle polluted runoff from new developments. The Patuxent Riverkeeper, along with the South Riverkeeper, the Baltimore Harbor Riverkeeper, the Severn Riverkeeper and the Assateague Coastkeeper, marshaled a broad-based coalition of groups to assist the state to develop regulations that require environmental site design practices to mitigate stormwater pollution from development.

But regulations — no matter how strong — are only as good as their enforcement. Last month, South Riverkeeper Drew Koslow put a developer on notice that he intended to sue him for 179 dis-

charges of contaminated stormwater in violation of Maryland's General Permit conditions and the Clean Water Act.

We Will Restore the Bay

Despite the failure of government to step up to the plate, the Waterkeepers of the Chesapeake region refuse to accept the current health of our bay. We know what the problems are and how to fix them. The relevant question becomes — do we have the will to restore the Chesapeake?

As Tom Horton, an environmental journalist, has said, "Public support often seems like the estuary itself, impressively broad but deceptively shallow." The Waterkeepers Chesapeake will continue to play their unique role of connecting communities, our laws and our values to the well-being of the bay so that citizens will hold themselves, polluters and their elected officials accountable. Only then will we restore the bay's oysters and crabs, put our watermen back to work, and preserve a way of life that makes the bay unique. **W**

A wild celery and water star underwater grass bed. At the turn of the century, an emerald cloak of underwater grasses lined the Chesapeake Bay and its tributaries, providing hiding places for blue crabs and spawning fish. Today, nutrient pollution has killed about two-thirds of the bay's underwater grass beds. Without these beds crabs, fish and waterfowl disappear. With them go the fresh, plentiful seafood, jobs for watermen and safe places for our kids to fish and swim.



AP PHOTO/MATHIEEN LANGE



Monitoring the Severn

By Allison Albert,
Severn Riverkeeper
Program Director

Severn Riverkeeper with the help of Arlington Echo Outdoor Education Center has been monitoring dissolved oxygen levels in Maryland's 'capital river' for the past two summers and has gathered some unsettling data. Surface dissolved oxygen measurements taken from 18 stations on the river generally showed healthy levels. In summer, however, oxygen levels near the bottom all scored below the EPA designated "healthy" threshold, measuring at low oxygen levels characteristic of a dead zone. These conditions were easily confirmed by detectable levels of hydrogen sulfide, a product of anaerobic bacterial metabolism.

Dead zones normally exist only in deep water where little mixing of layers occurs, not flowing rivers. Sadly, the Severn is proving that rivers are suffering from low oxygen levels. Last spring the Riverkeeper presented this important finding along with policy recommendations to Maryland Governor Martin O'Malley and the Anne Arundel County Executive. We continued our monitoring effort this summer with similar preliminary results.

Photo: Severn Riverkeeper monitoring team detects smelly hydrogen sulfide in bottom sample.

Chicken waste — shown here stored illegally in an uncovered two story high 'poop hill' at a factory farm in Maryland — is particularly high in phosphorus.

State Secrets: What Are They Hiding On Maryland Chicken Farms?

By Bill Gerlach,
Waterkeeper Alliance

► MARYLAND POULTRY farms raise 270 million chickens each year and produce more than one billion pounds of poultry manure. This waste contains enormous amounts of phosphorus, nitrogen and other toxins — including human carcinogens, arsenic and other heavy metals. And when it rains, this waste doesn't stay on the farm. Stormwater washes it off farms and fields straight into Chesapeake Bay. Today, agricultural runoff is the single largest source of pollution in the bay.

But the state agency responsible for managing this waste — the Maryland Department of Agri-

culture — is hiding the polluters. The department refuses to allow public access to the operational plans that detail how chicken farms dispose of their waste. No one actually knows where all this poop is going, except for factory farm operators, their bosses at large integrators such as Perdue, Tyson and Montaire, and a few privileged state bureaucrats. Maryland's policy of keeping factory farm pollution a state secret poses a huge obstacle to citizen efforts to hold poultry operations accountable for water pollution. And federal requirements are little help. Federal law requires that large-scale factory farms operate under a Clean Water Act permit. Theoretically, these permits should detail waste plans and be available to the public. Unfortunately, in clear defiance of federal law, the State of Maryland has not required that these large operations obtain permits.

Waterkeeper Alliance and Waterkeepers Chesapeake are exploring litigation to open up the secret poop policy of Maryland's tight-lipped chicken cabal of big poultry, their allies in the state assembly and pro-chicken state bureaucrats. It is only a matter of time before this information is made available to citizens. Litigation has already been successfully brought by Delaware Riverkeeper challenging New York State's refusal to make similar factory farm plans available to the public. And a federal court has ruled in a case brought by Waterkeeper Alliance against U.S. EPA that factory farm waste management plans must be made available for public review. The time is coming soon for big poultry to face the music for their waste disposal practices. [W](http://www.waterkeeper.org)

The business model of a factory farm simply doesn't work unless they are able to pollute.

What we've found in the Eastern Shore of Maryland is that many chicken factories are in the tidal zone. The chicken factories and fields where they spread their waste are underlain with pipes and ditches. The waste flows into these ditches. When the tide comes up, these ditches are connected to the bay. We have found fishermen's bait boxes floating up the ditches, we've seen minnows swimming in chicken factory pipes. Poultry factories use the bay to dispose their waste.

Rick Dove, Waterkeeper Alliance

Central Valley Dairy Factory

By Sejal Choksi, San Francisco Baykeeper

»CALIFORNIA'S CENTRAL Valley is a powerhouse of agricultural production, supplying a famed abundance of fruits, vegetables and dairy. More than six million acres in the Central Valley are devoted to irrigated agriculture, producing \$13 billion worth of food annually. Farms there thrive on water supplied by a single, vast estuarine system, the Sacramento-San Joaquin River Delta. The delta's watershed, which drains more than 40 percent of California's landmass and empties into San Francisco Bay, provides drinking water to more than 22 million people. After decades of heavy fertilizer application, as well as the proliferation of high-density animal factories, agricultural pollution is directly threatening California's drinking water, devastating aquatic habitat and contributing to the dramatic collapse of fisheries.

The shift to industrial agriculture in the Central Valley has resulted in fewer farms, more cows, and much more wet manure and polluted runoff. Federal law requires factory farms to prevent runoff of manure and contaminated rainwater. Factory farms must implement basic controls such as keeping stormwater away from the areas where cows are crowded together. Further, farms must ensure that manure used as fertilizer is applied slowly so nutrients can be absorbed by the plants, without running off into creeks or soaking quickly into groundwater. Although federal law required pollution control plans for these animal factories, California regulators have refused to enforce the law.

Baykeeper is vigilant in enforcing the law to protect the watershed from industrial dairy fac-



tories in the Central Valley. With the help of Waterkeeper Alliance, Baykeeper launched a Central Valley Factory Farm campaign in June 2006 by announcing lawsuits against three polluting dairies in the Central Valley. These suits succeeded in forcing these industrial dairies to obtain Clean Water Act permits and increased the pressure on the state to implement federal environmental law. More recently, Baykeeper has challenged the state's entire illegal factory farm program. Meanwhile, we're working to preserve state rules that afford at least minimal protection for groundwater, the source of drinking water for many rural residents. With sustained pressure, we believe we can clean up the delta while protecting and preserving family farms. **W**

The three million dairy cows statewide excrete more waste than all the people in California combined. This cow manure is not treated and much of it ends up in our waterways. Farmers usually promise the manure will not be used as fertilizer for crops that feed humans, but California's rules make it very hard to keep spinach and other crops out of manure's way.



Stream Team

Santa Barbara Channelkeeper's Stream Team has identified chronic nutrient and algae problems in several watersheds that feed California's Santa Barbara Channel. In the Goleta Slough watershed, some local creeks have nitrate concentrations more than double public health standards. Agriculture is the chief culprit. Channelkeeper supported a new regulatory program that requires farmers on California's Central Coast to develop water quality management plans to reduce nutrient pollution from irrigated fields.

Big Dams, Big Ag and Toxic Algae

Invasives

By Don McEnhill,
Russian Riverkeeper

On the Russian River there is a massive infestation of invasive *Ludwigia Hexapetala* from South America. Opportunistic invaders like *Ludwigia* thrive on imbalances in local aquatic ecosystems. In our case, the imbalance is caused by nitrogen and phosphorus. Due to a flawed plan for the Santa Rosa regional wastewater plant, the facility has dumped massive amounts of nutrients into a small tributary. Recently, Russian Riverkeeper successfully argued for a new plan that would greatly reduce the amount of nitrogen and phosphorus entering the tributary, and the presence of *Ludwigia*.



This was open water 30 days ago, now choked by invasive *Ludwigia* fueled by nutrients.

By Regina Chichizola, Klamath Riverkeeper

»THE IRON Gate and Copco reservoirs on the Klamath River receive heavily-polluted water from surrounding agricultural lands. Excess nutrient pollution in Klamath reservoirs has given way to a more ominous villain — toxic algae. In recent years, the reservoirs have had some of the highest levels of the toxic algae *Microcystis aeruginosa* in the world. *Microcystis aeruginosa* can cause vomiting, stomach pain, rashes and diarrhea, and in the Klamath, has impacted traditional Native American ceremonies, whitewater rafting, swimming and fishing downstream.

The blooms occur in the summer as the shallow, nutrient rich water trapped behind the dams heats up and spurs algal growth. For years, downriver Tribes, fishermen and conservation groups have called for the removal of the dams to restore dramatically declining salmon runs and alleviate these toxic algal blooms.

While the state acknowledges that the algae is indeed a serious health risk, it has refused to regulate water quality in the Klamath reservoirs, claiming that the problem falls under the federal government's jurisdiction. Likewise, the federal EPA has refused to regulate toxic algae. The most EPA is willing to do is issue the following statement:

Recreational exposure to toxic blue-green algae can cause eye irritation, allergic skin rash, mouth ulcers, vomiting, diarrhea, and cold and flu-like symptoms. Liver failure and death have occurred in rare situations where large amounts of contaminated water were directly ingested.

Klamath Riverkeeper is working with leaders from the Karuk and Yurok Tribes, recreational businesses and fishermen to make the Klamath dam owners — PacifiCorp and Warren Buffett's Berkshire Hathaway — clean up the Klamath. In May, Klamath Riverkeeper and other affected community members filed a nuisance lawsuit against PacifiCorp over the role the dams play in creating algae blooms and other conditions lethal to salmon. Klamath Riverkeeper is also taking on unregulated nutrient pollution, water transfers and factory farms on private and National Wildlife refuge lands upriver of the reservoirs.

In the Upper Klamath Basin, agriculture has had a free ride, leading to many of our wildlife refuges and wetlands being drained and farmed for cows



Susan Corum of the Karuk Tribe takes a water sample from a Northern California reservoir, bright green with the toxic algae that thrives in the heavily polluted water.

and alfalfa. "Meanwhile, the endangered and endemic fish in the Klamath are nearing extinction, and refuges that are supposed to be protected for the largest waterfowl migration in the U.S. are instead becoming industrial farmland and agriculture sumps. It's no wonder the high nutrient water coming into the reservoirs is stagnating.

Though the Klamath's toxic algae situation is related to nutrient pollution, the fact remains that Warren Buffett's PacifiCorp dams are creating and releasing a toxin that is turning the Klamath into a toxic stew. Klamath Riverkeeper remains committed to working with all those who use the Klamath River to stop the toxic algae blooms that are killing it. Riverkeeper looks forward to the forthcoming public nuisance trial as a means of forcing Buffett and PacifiCorp to take into account not only the health of the river but also its health effects on the people who swim, fish and drink it. **W**

Georgia's Precious Blackwaters Turn Green

►GEORGIA IS home to hundreds of miles of blackwater streams. These unique stream systems start in cypress and gum (tupelo) swamps and low-lying areas and get their names from the dark tea-colored waters. Freshwater fish diversity is very high, with well over 50 species in some systems. Blackwater streams and rivers are also hauntingly beautiful places to fish, swim, float, hike or just sit and gaze at the dark clear water contrasted against snow-white sand bars.

However, the delicate balance that provides the tea-colored waters is shifting. The streams are turning green from sewage and stormwater runoff entering the waters from aging or poorly-regulated wastewater treatment plants, stormwater systems, agricultural operations and septic tanks. The slimy, green algae that covers the surface of the streams chokes out native mussel species, shifts productive insect assemblages (the prey base for fish) over to less-diverse species. As bacteria consumes the decaying algae, oxygen levels plummet, making the streams uninhabitable for fish. The sugar-sand bars are taking on a brownish hue and grasses and other terrestrial plants are moving in. Despite this growing problem, Georgia currently has no regulations to limit the amount of nutrients in blackwater streams.

It is not too late for Georgia to reverse this trend. Enacting stringent in-stream standards for nutrients in blackwater streams can help restore the natural balance. A similar action was taken for lakes in the state earlier this year. Ogeechee-Canoochee Riverkeeper and Satilla Riverkeeper are working to document nutrient levels in blackwater streams and push the state to adopt standards that are protective of these unique ecosystems. So far, we have found excessive levels of nutrients leaving sewage discharge pipes, surging out of stormwater canals and seeping into streams from contaminated groundwater leaving land application systems.

In early 2007, Ogeechee-Canoochee Riverkeeper succeeded in stopping a wastewater application on land next to the Canoochee River from Claxton Poultry Farms. The poultry plant was proposing to resume spraying wastewater with high nutrient levels on fields already contaminated by previous operations at the plant. Ogeechee-Canoochee Riverkeeper documented contaminated groundwater entering the river from the old sprayfields.

We shared this information with the poultry plant, state regulators and the public. The communities along the Canoochee River spoke out against resuming spraying on this contaminated parcel of land and the poultry plant withdrew its application to reopen the old sprayfields.

Satilla Riverkeeper gave input to and now monitors a consent order issued to the City of Douglas on the chronic failure of the city's wastewater treatment plant, but neither the order nor existing permits address nutrient levels, at all. Meanwhile, state regulators are reexamining permit limits for nutrients

and other pollutants throughout the Satilla watershed, and there is growing concern among citizens that permits will be written to allow continued degradation as opposed to restoring the Satilla to its natural state. In particular, we are working to ensure that we return the natural balance of nutrients in the river, as opposed to accepting the current degraded state of affairs. [W](#)



The Smith family enjoys their Canoochee River property in the 1950s.

**By Chandra Brown,
Ogeechee-Canoochee
Riverkeeper and
Gordon Rogers, Satilla
Riverkeeper**



Today, the Smith property is unusable due to excessive nutrients entering the river from a poultry processing plant several miles upstream.

Georgia's Largest Water Supply Reservoir Polluted with Excess Nutrients

**By Upper
Chattahoochee
Riverkeeper
Sally Bethea**



Upper Chattahoochee Riverkeeper's monitoring program has documented nutrient pollution in Lake Lanier, an important source of drinking water for the Atlanta region.

Georgia's man-made Lake Lanier is located just 50 miles north of Atlanta. As the lake celebrates its half-century milestone this year it is also receiving notoriety for its high pollution levels. After years of investigations and advocacy by Upper Chattahoochee Riverkeeper, Lake Lanier was recently placed on the federal impaired waterways list when officials faced the facts that nutrients in the drinking water supply had reached unacceptable levels. Since 2000, population in the Lanier watershed burgeoned, as has the lake's algae. Polluted runoff from uncontrolled development has flooded the lake with phosphorus.

For years, Georgia's environmental agency revealed excess nutrients in the lake, but the state failed to admit that Lake Lanier was impaired to the EPA. Finally in 2006, after Upper Chattahoochee Riverkeeper repeatedly brought the matter to EPA's attention, Georgia officials agreed to list the lake as impaired and draft a cleanup plan. In the next two years, the state will spend half a million dollars to determine the source of the lake's nutrient pollution. With millions of Georgians depending on the lake for drinking water, the health of Lake Lanier is critical.

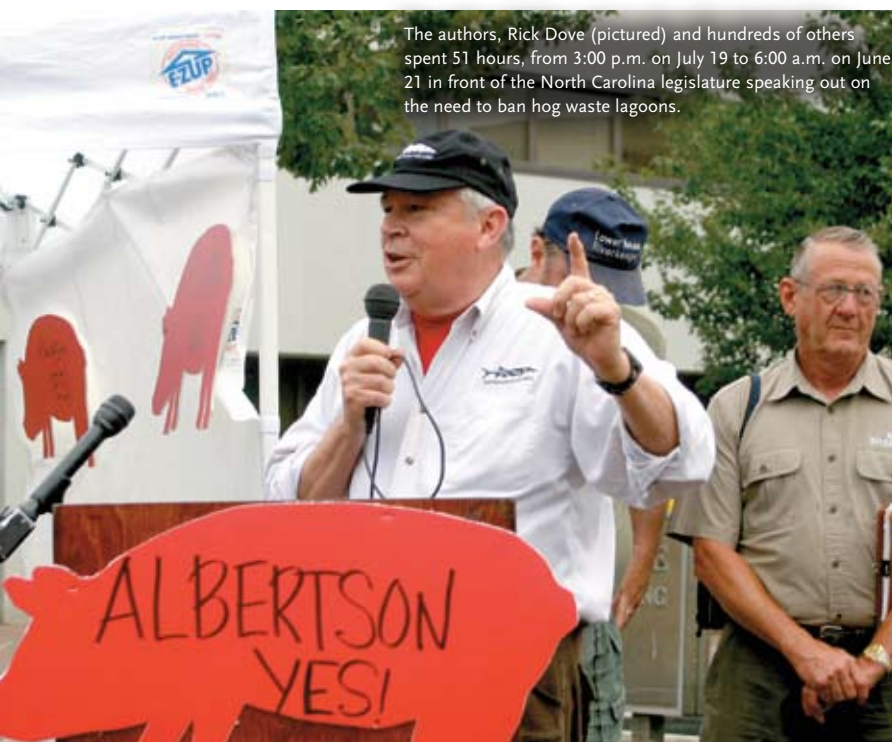
North Carolina Hog Vigil

By Heather Jacobs, Pamlico-Tar Riverkeeper
and Larry Baldwin, Lower Neuse Riverkeeper



The vigil included a hog factory model with a 40 gallon lagoon that pumped real waste, exposing the legislature to the awful smell that North Carolinians must bear.

RICK DOVE



The authors, Rick Dove (pictured) and hundreds of others spent 51 hours, from 3:00 p.m. on July 19 to 6:00 a.m. on June 21 in front of the North Carolina legislature speaking out on the need to ban hog waste lagoons.

NEUSE RIVERKEEPER

»THERE ARE 10 million hogs in North Carolina being raised “industrial style.” Each day, those 10 million hogs produce the equivalent waste of 100 million people. That’s all the citizens in North Carolina, California, New York, Pennsylvania, Texas, New Hampshire and North Dakota combined.

The hog industry uses an outhouse system of waste disposal. Fecal waste, urine and wash-down water from swine operations are stored in open waste pits called “lagoons” (sorry no bathing beauties anywhere near these lagoons). When the waste pits fill up, the industrial swine producer sprays the untreated waste onto fields under the pretext of growing crops. But this waste runs off fields directly to our wetlands, streams, creeks and rivers.

The Pamlico-Tar River watershed is home to approximately 500,000 hogs, and in the Neuse watershed the number is two million hogs. These factories apply waste from the state’s 2,300 waste lagoons to the ground in a liquid form under the pretext of raising crops. The runoff pollutes our waters and creates a substantial human health risk to our communities.

The fight to rid the state of these open cesspools dates back to the early 1990s when fish began dying by the billions (see *Fish Able*, the spring 2007 issue of *Waterkeeper*). Today the fight continues.

On June 19, North Carolina Waterkeepers and a broad coalition of religious, environmental and labor organizations brought the fight to the lawn of the state General Assembly. More than 125 people pitched camp in front of the legislative buildings in the state capital of Raleigh. We had simple demands: legislation to permanently ban hog waste lagoons and sprayfields, and safe drinking water for people whose groundwater has been contaminated by hog waste. We stayed 51 hours, for the entire legislative session. We brought with us a model of a hog factory with a working lagoon and 40 gallons of real hog waste. When the state discovered that we planned to have hog waste on the lawn, they sent a security official who informed us that if we spilled even one drop, it would be considered hazardous waste. The HazMat team would be called in to do an emergency cleanup and we would be fined. He provided no answer when asked why hog waste that is called fertilizer elsewhere is considered hazardous material in Raleigh.

The vigil didn’t accomplish all of our policy goals. Back-room deals lead to weak legislation that will essentially allow waste lagoons to remain. Waterkeepers and community groups viewed the legislation as a promise unfulfilled. Governor Easley himself has gone back on a promise he made

A Return to Our Roots



In the piedmont region of North Carolina, a silent revolution is growing. Within an hour of the hustle and bustle of Raleigh, farmers are recognizing the possibilities of returning to the 'small is beautiful' way of farming and community economics.

On his 73 acres, Mike Jones takes care of 200 head of hogs. This hog farm is a far cry from the industrial animal operations that have

become the norm of today. Sows, with their piglets by their side, have room to roam, root, graze and, simply, act like pigs. The result? Healthy animals that are sold to Whole Foods as local, organic meat for 20 cents per pound more than industrially-produced hogs. While Mike can't live on his hog farm alone, farmers across the state are turning back to sustainable farming.

while campaigning for office. Seven years ago he went on record to say that he would rid the state of lagoons and sprayfields within five years. But he was one of the main brokers of a deal that will allow lagoons and sprayfields to remain in existence for years to come.

The work of the North Carolina Waterkeepers and our broad coalition of community-based activists is far from over. We won't stop until this archaic, outdated and destructive form of animal waste disposal is a thing of the past. [W](#)

Air Force

Despite setbacks in the North Carolina state legislature, the federal Clean Water Act remains a strong tool. The Neuse and Pamlico-Tar Riverkeepers have stepped up efforts to catch illegal hog waste discharges through aerial patrols and on-the-ground water monitoring. This work is dependant on a team of 20 volunteers who have learned the tricks of aerial photography and water sampling. Since June, the

Neuse and Pamlico-Tar Riverkeepers have flown more than a dozen sorties with volunteers, capturing several Clean Water Act violations that we will pursue.



Volunteer pilot Ron Smith flies patrol over a North Carolina hog factory.

Action on the Forge

By Kevin McAllister,
Peconic Baykeeper

»THE FORGE River in Moriches, New York, was thrust into the public spotlight in June 2005 when a whitish-gray plume consumed the river. Fish and crab carcasses floated on the water as juvenile eels rose from the depths to breathe and blue crabs scuttled ashore to survive. The Forge was dying and spreading its contagion into the greater reaches of Moriches Bay. Fred Chiofalo, a bayman for more than 40 years in the area, said, "This was a golden place and always one of the great places to fish for crabs, eels, clams, flounder, bunker, everything. It's horrible what's happened and, what's more, most of the recent shellfish closings in northern Moriches Bay are a result of the Forge."

The dire conditions set in motion a call to action. The community quickly rallied, appearing by

the hundreds at press conferences and meetings in an effort to save the Forge. Concerned residents trained by the Peconic Baykeeper regularly tested the waters, recording dissolved oxygen levels and collecting samples for fecal bacteria. In September 2005, Peconic Baykeeper petitioned the New York Department of Environmental Conservation to classify the Forge River and its tributaries as impaired waters. Under the Clean Water Act, states are required to identify impaired waters where conditions prevent specific "designated" uses. In this instance, the Forge failed to provide the water quality necessary for the survival of its fish populations. The river's high level of bacteria also presented a serious threat to the people who use the bay. In April 2006, after nearly a year of testing and the community's clear demand for action, the state granted the petition and placed the Forge on the impaired waters list.

Already the designation has prompted new leadership and action at many levels. The Town of Brookhaven has taken the lead to create the Forge River Task Force, composed of government officials, citizen leaders and public interest groups, including Peconic Baykeeper. The Task Force is analyzing the factors that caused the decline and will make recommendations to guide restoration efforts. Ironically, the distinction of being an impaired waterbody has been the impetus to reverse decades of neglect and indifference. **W**



Massive Kill Prompts Changes in Rhode Island

By John Torgan, Narragansett Baykeeper



In August 2003 oxygen depletion from nutrient pollution in Greenwich Bay lead to a massive fish kill.

Sometimes it takes an environmental disaster to create the political will to make real changes. This is certainly the case in Rhode Island, where a hypoxic (low-oxygen) event in Greenwich Bay wiped out more than a million juvenile menhaden as well as countless other marine animals in August of 2003. This event set into motion a sequence of actions that led to the upgrades of most of Narragansett Bay's major wastewater treatment facilities.

In the weeks prior to the fish kill, Narragansett Baykeeper had been ringing the alarm about hundreds of thousands of baby soft-shelled clams washing up dead along shores and bottom dissolved oxygen levels approaching zero. Unfortunately there was little anyone could do at that point to prevent the fish kill. Days of

heavy rain washed millions of gallons of sewage into the bay, followed by a stifling heat wave and calm, neap tide conditions which lead to widespread algae blooms. And then, a sudden drop in the remaining oxygen levels caused the fish to suffocate. It was a perfect storm of factors, including the nitrogen from sewage pollution, which conspired to foul the bay's waters.

The public outcry was immediate and urgent. The governor and environmental officials convened hearings, a legislative committee investigated the causes, and promptly moved legislation aimed at cutting nitrogen levels from wastewater by 50 percent by 2008. With 2008 approaching, we are thrilled that our advocacy on this has paid off: construction of advanced wastewater

Lake Champlain Quadricentennial — Anniversary or Funeral?

By Tim Burke, Lake Champlain Lakekeeper



LAKE CHAMPLAIN LAKEKEEPER

Liquid manure flows from a farm field into Lake Champlain.

In 1609, Samuel de Champlain came up the Richelieu River and found a big lake that he promptly named after himself. Today, the lake is suffering from nutrient pollution. In 2002, Vermont and New York adopted and EPA approved a pollution reduction plan for phosphorus. In the almost five years since the adoption of the plan, however, no significant reductions in phosphorus have occurred in the lake. This year the state legislature passed a law requiring Vermont, which contributes most of the phosphorus, to reopen and rewrite the plan. Lake Champlain Lakekeeper and Conservation Law Foundation played a critical role getting this law passed and forcing the state to adopt an industrial stormwater permit to stop polluted runoff. Plans to commemorate Champlain's arrival are now underway for 2009. But without real progress on nutrient pollution, the celebration of the 400 year mark may be more of a funeral than an anniversary.



TOM ARDITO

Sewer overflow pipes dump raw sewage directly into streams when inadequate sewer systems are overwhelmed by rain.

treatment facilities at three of the bay's four largest wastewater treatment plants are already underway. While our waters remain murky for now, Narragansett Bay is on course for a cleaner, healthier future. **W**

The Messy Vocabulary Of Watershed Protection

►►EVERY YEAR, Florida's St. Johns River receives 32 million pounds of nitrogen, the vast majority from human sources. The thick green carpet of algae that coats the river proves that the St. Johns is suffering from acute nitrogen poisoning. Years of advocacy by environmental groups like St. Johns Riverkeeper have forced reluctant state agencies to admit the river is in jeopardy.

For the past six years, St. Johns Riverkeeper has faced nutrient pollution head on. This has meant untangling a knotted mess of science, law and bureaucratic vocabulary called Total Maximum Daily Loads or TMDLs. A TMDL is a scientific calculation of the maximum amount of a pollutant that a waterbody can receive and still meet federal water quality standards for fishing and swimming. The mention of something like a TMDL makes most folks' eyes roll back. But once you get beyond the jargon, a TMDL can be a useful tool in controlling the amount of pollutants that enter our waterways. For us, it was the best tool we had to decrease nitrogen pollution. So we jumped in with both feet.

Our journey began in 1998. A lawsuit brought by Earth Justice had just succeeded in forcing Florida to establish a nutrient TMDL for the lower St. Johns River by September 2003. According to water quality models, nitrogen would have to be reduced by 60 percent to achieve healthy nutrient levels in the river. But as soon as the state attempted to implement this reduction, polluters threatened to sue. The state caved in to the pressure and weakened the TMDL.

St. Johns Riverkeeper knew that if we were ever going to reduce nitrogen pollution in the river, we needed to act. EPA approved the inadequate nutrient reduction plan and, in 2004, St. Johns Riverkeeper and Clean Water Network of Florida filed a lawsuit. Major polluters, including the American Pulp and Paper Association and our local utility, accused us of standing in the way of river restoration. But we pushed through with our legal challenge and community outreach.

As our fight against the state's plan intensified, the river health took a turn for the worst. In summer 2005, a toxic blue green algal bloom — dubbed the Green Monster — covered over 100 miles of the river. Toxic algae levels were 300 to 1000 times

By Neil Armingeon,
St. Johns Riverkeeper

Riverkeeper and the Clean Water Network successfully linked the tangled jargon of our lawsuit and the state's TMDL to the green water and toxic algae they were seeing in their community.



Green Monster Wins National Environmental Award

The Green Monster: It Came From The River, a TV documentary that compares algae blooms in the St. Johns River to an alien invasion of grotesque green goo, took first place honors at the Awards for Reporting on the Environment, held September 5 at Stanford University in Palo Alto, California. The awards, sponsored by the Society of Environmental Journalists, are the world's largest and most comprehensive honors for eco-reporting.

The take-off on 1950s science-fiction films was praised for focusing "not just on the problem, but also on common-sense solutions." The program, sponsored by St. Johns Riverkeeper, aired in March 2006. Since then, St. Johns Riverkeeper distributed 2,000 *Green Monster* DVDs to local schools, homeowners associations, civic organizations and elected officials. A sequel — *Revenge of the River* — aired last May. Both documentaries are available for viewing at www.jacksonville.com.

worse than World Health Organization standards. Conditions worsened and the Department of Health issued an alert recommending that people refrain from recreational use of the river. Fish were dying in droves and new species of toxic algae were emerging. Nitrogen pollution was the cause.

For the first time citizens began to recognize and understand the problems and risks associated with nitrogen pollution. Riverkeeper and the Clean Water Network successfully linked the tangled jargon of our lawsuit and the state's TMDL to the green water and toxic algae they were seeing in their community. The tide began to turn; public sentiment turned against EPA, the state and the polluters. Their position began to crumble. EPA asked the federal judge to allow them to reconsider the TMDL. In October 2005, as we were preparing to go to trial, EPA reversed its approval of the nutrient TMDL. EPA later established a nutrient TMDL that required a 60 percent reduction in nitrogen loading. The new TMDL was strong enough to cut nutrient pollution and the river would meet water quality standards.

Good guys win and the end of the story, right? Well, not yet. As soon as the EPA announced its settlement, the Florida Department of Environmental Conservation began a campaign to dismantle the newly established TMDL. The department wanted to lower water quality standards for dissolved oxygen, which would allow more pollution to enter the river. The change was a gift to polluters, who would be able to spend less on wastewater treatment and discharge more nitrogen into the river — an additional 830,000 pounds of nitrogen over the scientifically-based standard. Today, we're back in federal court fighting the state's attempts to lower oxygen levels. This time, there are even more interveners lining up against us including the Florida Chamber of Commerce and the Florida League of Cities. It seems that the entire government of the state of Florida is lining up against clean water. Ultimately, though, we will win.

We've already made great progress — the current TMDL is now almost triple what was originally proposed. Just as important, we've used this campaign to educate people about why something as abstract as a TMDL matters to the river's health. We produced an award winning video called the *Green Monster*, which has been viewed by tens of thousands of citizens. We also developed the River Friendly Yard program, which educates citizens on how they can reduce algae-causing nitrogen from their yards and businesses. Last year, a \$700 million restoration plan for the St. Johns was begun; its main goal is reducing nitrogen loading to the river. We know our TMDL fight led to the development of that program.



BILL YATES

As Waterkeepers, we are constantly confronted with the multitude of issues that impact our waterways. We struggle to fix the worst things first. These battles are usually the most difficult, but result in the most meaningful victories. Our TMDL struggle has established Riverkeeper as the true



voice of the St. Johns River. People know Riverkeeper will go to the mat for what's best for the St. Johns River. And that, after all, is what being the Waterkeeper is all about. [W](#)

Algae choke Goodby's Creek, a tributary of the St. Johns River, September 2005.



By Sandy Bihn,
Western Lake Erie
Waterkeeper

▶▶A GREEN cup of water was the poster child of Lake Erie in 1970, and after nearly three decades, the same green water is back. Phosphorous in Lake Erie waters has increased every year since 1990. Researcher David Baker reports that the 2007 phosphorous readings are the highest in over 20 years.

In 1978 the U.S. and Canada signed a treaty setting limits for phosphorous pollution. The agreement resulted in the elimination of phosphorous in laundry detergents and discharge limits for wastewater treatment plants. As a result Lake Erie phos-

This satellite photo vividly shows algae and sediment pollution in the Great Lakes. Lake Erie (lower right) is the shallowest and warmest of the lakes — making it the most susceptible to algal blooms. Lake St. Clair (just above Lake Erie) is also heavily impaired by sediment and algae.

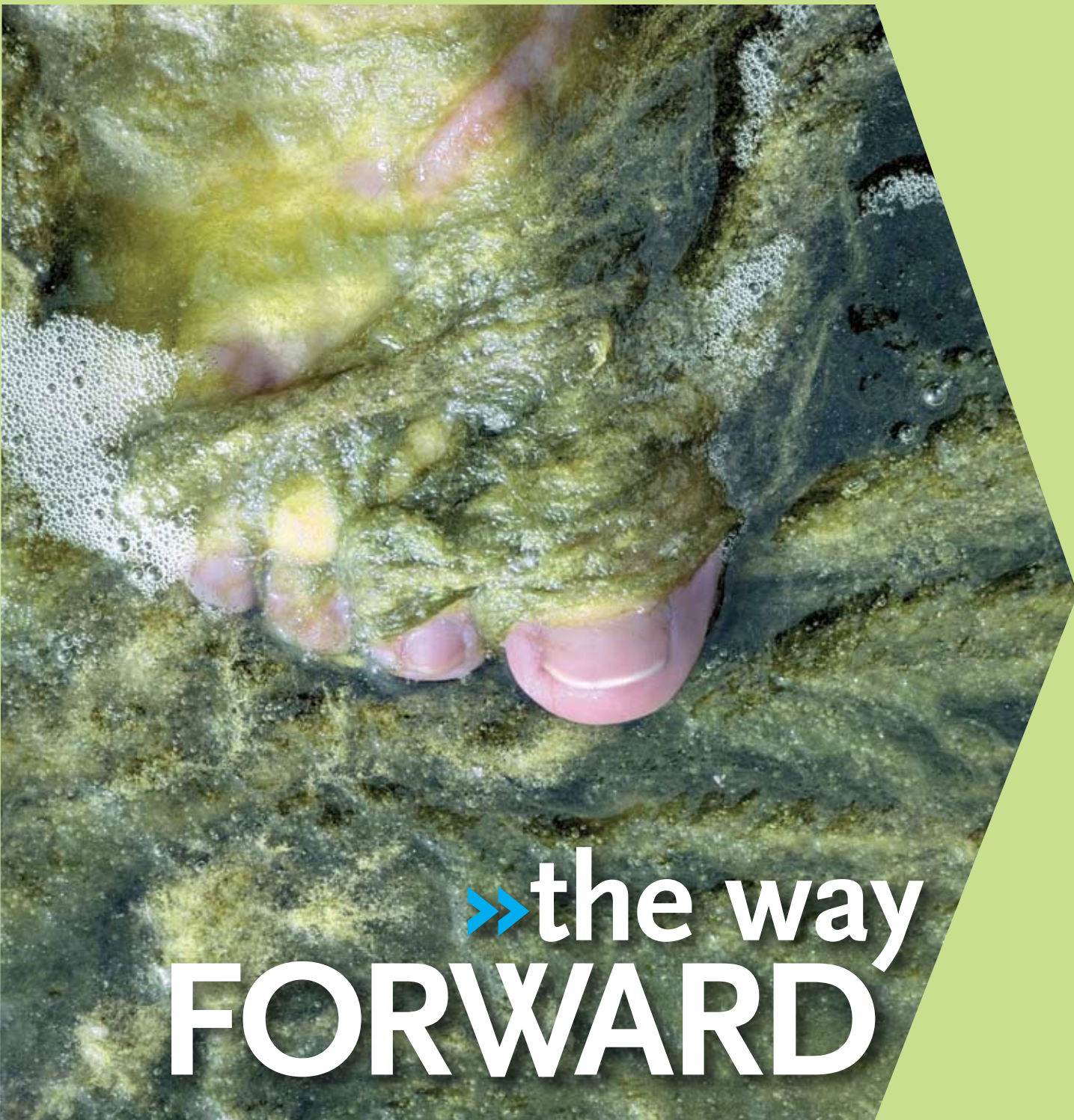
phorous levels dropped and the target was met in 1988. But the lowered phosphorous levels did not last long. In 1990 phosphorous was again on the rise. Today, Lake Erie waters are showing the same signs that harmed the waters and fish decades ago — dead zones and algae blooms.

Algae can take over a lake when fed too many nutrients and, in this case, too much phosphorous. In Lake Erie, a new invasive algae that appeared in summer 2006 called *Lyngbya wollei* is doing just that. It looks like matted wool and most likely came from boats that winter in the Southeastern U.S. Researchers hoped the February freeze would kill the unwelcome weed. But in April, mounds of algae remained piled up along the shoreline. This algae clogs shallow marinas where it gets into boat intakes and causes engines to shut down.

Lake Erie supplies drinking water to 11 million people and supports local economies with billions of dollars from sport fishing and recreation. But today Lake Erie needs help with phosphorous. Efforts in the 1970s to reduce toxics pouring into the Great Lakes have succeeded in reducing those pollutants. It's now time to take nutrient pollution seriously. **W**



The invasive algae *Lyngbya wollei* piles up along the shores of Western Lake Erie.



»the way FORWARD

Crystal Clear

»NITROGEN AND phosphorous are vital nutrients for plants and animals. But too much can overwhelm a waterway, causing massive algal growth that smothers and poisons aquatic life, and robs oxygen from the water. Nutrient pollution is a serious threat to human health — threatening drinking water sources, and making recreation in waterways and eating seafood dangerous activities.

Nutrient pollution comes from agricultural, sewage, urban runoff, air pollution and industrial waste. We know how to keep this waste out of our waterways. It's time we take responsibility for the state of our waters, handle our fertilizers and waste responsibly, and invest in our infrastructure. Immediate action is necessary to stop our waterways from turning toxic green.

Keeping Nutrient Pollution Out Of Our Waterways

Life holds many mysteries. But how nutrients end up in our water in harmful amounts is not one of them. The uncontrolled flow of this pollution into our waterways is the result of irresponsible industry practices and lax enforcement of existing safeguards by state and federal environmental agencies. In addition, EPA has refused to create enforceable limits on the discharge of nitrogen and phosphorus into our waters. We know who the main culprits are and we know what solutions are available. It's time to take care of this problem.

AGRICULTURE



Irresponsible agricultural practices — allowing animal waste and fertilizer to run off fields and into surrounding waterways — are the largest source of nutrient pollution nationwide. This pollution should be controlled. Large farms

are required to develop nutrient management plans and implement best management practices to keep their waste out of our waters. But these requirements are inadequately enforced or ignored by environmental officials

Multiple rows of trees shrubs and native grasses form a riparian buffer that protect Bear Creek in Story County, Iowa. Wetlands and vegetation buffers absorb runoff and capture nutrient pollution from farm fields.



USDA/RYAN BETTS

around the country. In the case of factory farms, water pollution is a part of their economic equation. Industrial animal factories cannot compete with family farms if they are held to environmental standards. For these facilities, dumping huge amounts of animal waste into surrounding waters is the standard business model.

There are many measures a farmer can take to keep nutrients out of our water. In fact, methods to safely handle manure and prudently apply fertilizers are common sense for family farmers. Some examples are applying only as much fertilizer or manure to a field as plants can absorb, not spraying fertilizer on water saturated or frozen fields, not storing waste in the open and keeping animals fenced out of streams. Sensitive areas such as steep slopes and wetlands should be protected and restored. Establishing vegetation along the banks of a waterway — called



RICK DOVE

A study by Dr. Mark Sobsey of the University of North Carolina found that the state's industrial hog facilities, like this one, produce more fecal matter each day than is produced by the citizens of North Carolina, California, Pennsylvania, New York, Texas, New Hampshire and North Dakota combined. Yet none of this animal waste is treated and much of it runs off directly into our waterways.

riparian. More advanced technologies also exist, for instance "precision farming," which uses global positioning system technology and computer-navigated tractors to ensure that fertilizers and manure are applied in the correct amounts and in the right places to prevent excess from running into waterways.

There are federal and, often, state and local funds available to help farmers pay for pollution prevention. This may

require that farmers cultivate less area or raise fewer animals, but these measures ensure that waterways are clean and safe. Most farmers — in contrast to animal factory operators — are good stewards. We must empower farmers to protect the environment, establish strong environmental standards and help with funding when necessary.



HUMAN WASTE

CREDIT: COURTESY OF PALM BEACH COUNTY REEF RESCUE. PHOTO BY JIM CAGLE.

Though the water discharged from wastewater treatment plants, like this one in Florida, has been treated, it still contains nutrients.



© PHOTOFEST INC./ALAMY

Sewage treatment plant technician with samples of treated and untreated sewage. Nutrient removal technology is widely available and affordable — it should be a minimum standard for all sewage treatment plants.

Wastewater from sewage treatment plants and septic tanks are another major source of nutrient pollution. Sewage treatment systems are mainly designed to disinfect waste, that is, to kill human pathogens. Nitrogen and phosphorus in wastewater pass through most treatment plants and are discharged directly into our waterways. Today, technologies are widely available that remove nutrient pollution from sewage. EPA estimates that the cost of installing these technologies ranges from \$1.82 to

\$10.95 per ratepayer per year — far below the 'sky is falling' estimates of sewage plant operators. Yet only the most advanced treatment plants currently use nutrient removal technology.

That's because EPA hasn't changed the standards for wastewater treatment in more than 20 years, despite Congress' requirement that EPA occasionally reevaluate treatment standards. It's time to update federal wastewater treatment standards to include nutrient removal, and increase federal and state grants and loans

to help fund upgrades at wastewater treatment plants.

Nutrient removal technologies for septic systems remain relatively expensive. But proper siting, installation and maintenance to ensure that septic systems work correctly, along with nutrient removal technologies, will help protect groundwater.

Our wastewater treatment infrastructure is antiquated and our waterways are paying for it in toxic algae. It's time we include nutrient removal as a basic requirement for how we treat our wastewater.



URBAN RUNOFF

Stormwater picks up fertilizers, animal and yard waste, detergents, sewage from leaky sewer systems, household chemicals and other nutrient pollution as it flows over yards, rooftops and streets. In most cases, this runoff flows into stormwater pipes and directly into streams and other waterways. There are two main approaches to stopping urban runoff. The first, is reducing the use of fertilizers and properly storing and disposing

wastes so they don't end up in stormwater. The second is slowing and treating stormwater before it reaches our waterways. Roads and developments should be designed to manage polluted runoff so our waterways are protected.

In cities where stormwater and sewer systems are combined, sewage and stormwater can be released into waterways when rain overwhelms pipes. Raw sewage in our water is a serious threat to public



Healthy wetlands and vegetation buffers are nature's kidneys, capturing runoff and breaking down and absorbing nutrients and other pollutants.

health. Sewer systems nationwide must be upgraded to ensure that sewage makes it to wastewater plants for treatment, regardless of the weather. Our sewer systems nationwide are suffering from neglect

— pipes and treatment plants that are far beyond their design life, operating beyond their capacity and relying on antiquated technology. It's time that we upgrade our sewer and stormwater infrastructure. This

will take federal and state commitment and investment. But we must maintain and upgrade our infrastructure to keep pace with new technologies and growth.

AIR EMISSIONS



Nitrogen from air emissions is a significant source of nutrient pollution in water. EPA estimates that air pollution is the source of 32 percent of the man-made nitrogen load in the Chesapeake Bay. Most of this nitrogen comes from vehicle emissions, power plants and other industrial

facilities burning fossil fuels, and factory farms. The nitrogen is deposited onto water surfaces or land, where it is picked up by stormwater. Federal air quality standards must be tightened and strictly enforced. This is another good reason to drastically improve energy efficiency and switch to renewable fuels.

INDUSTRIAL WASTES



Slaughterhouses, breweries, agriculture product processing facilities and other factories release nutrients in their wastewater. These facilities are required

to have a permit to discharge waste into our waterways. Permits need to be strong and strictly enforced to stop industrial plants from adding nutrient waste

to our waterways. Like wastewater treatment plants, new and affordable advanced nutrient removal technologies should be required.





CALL TO ACTION

State and Federal Priorities

All states should incorporate nutrient limits into all Clean Water Act permits.

Many states have notoriously weak stormwater permits, especially for nutrients; they need to be brought to a high national standard.

Congress must pass the Clean Water Restoration Act to ensure that all our waters receive protection from pollution and destruction.

Local Motion

Municipalities must ensure that their sewage treatment plants are running at an optimal level by testing effluents and upgrading systems where necessary.

City and town planners need to prioritize eliminating combined sewer overflows.

Communities should pass zoning rules that limit development in nutrient-sensitive areas, and restore and protect vegetation buffers and wetlands that filter pollutants from stormwater.

Individual Responsibility

Limit or eliminate the use of fertilizers on lawns. Use only phosphorus-free fertilizers.

Consider planting native vegetation, trees and shrubs to replace grass lawns.

Ensure that organic wastes are stored properly and treated before release. Pet wastes should be picked up and disposed of properly. Septic systems should be inspected and pumped out regularly. When boating, use pumpout facilities to empty marine toilets.

Have your furnace and chimney checked and cleaned annually.

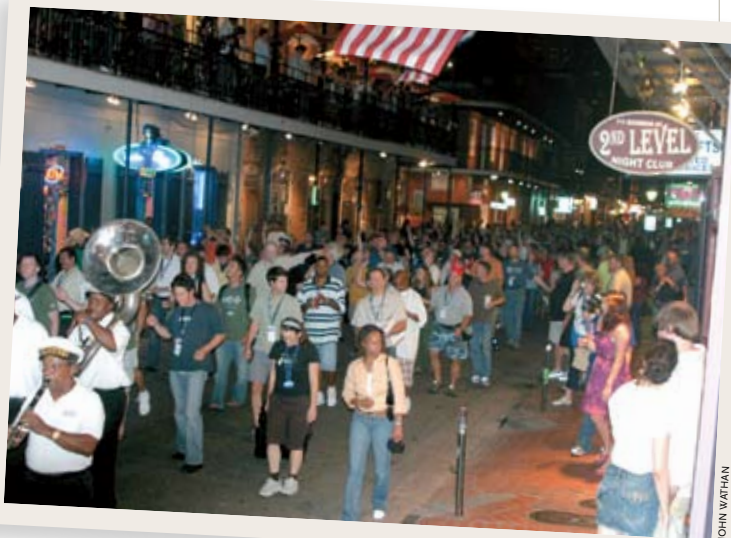
Ensure your car is well tuned to run at peak efficiency to reduce air pollution.

GET INVOLVED.
Urge public officials to act.

Join your local Waterkeeper program.

9th Annual WATERKEEPER ALLIANCE Conference

In June 2007, Waterkeeper Alliance held its 9th Annual Waterkeeper Conference in New Orleans, LA. More than 225 attendees from around the world descended on Tulane University in the Big Easy to show their support for the struggling city, the co-hosting Waterkeeper programs (Atchafalaya Basinkeeper, Louisiana Bayoukeeper and Lower Mississippi Riverkeeper) and all the other Waterkeeper programs in the Gulf of Mexico region. This year's conference included numerous advocacy panels and speeches, a restoration project in the urban Bayou St. John and a healthy dose of local music and food. Everyone left New Orleans with a fond appreciation for the local community, energized for another year of fighting for clean water until we see each other again in Seattle in 2008!



JOHN WATHAN



GILES ASHFORD



JOHN WATHAN



GILES ASHFORD



GILES ASHFORD

Having all these powerful Waterkeepers in one place is magical. Waterkeeper Alliance's commitment to come to New Orleans, in spite of all our challenges, and assist in our recovery is a true blessing. We hope everyone took the spirit of the land, water and its people back home with you. Thank you for leaving a piece of you with us. You are the best of the best. It is as simple as that.

Marylee M. Orr
Executive Director

Louisiana Environmental Action Network/
Lower Mississippi Riverkeeper



JOHN WATHAN



GILES ASHFORD



JOHN WATHAN



GILES ASHFORD



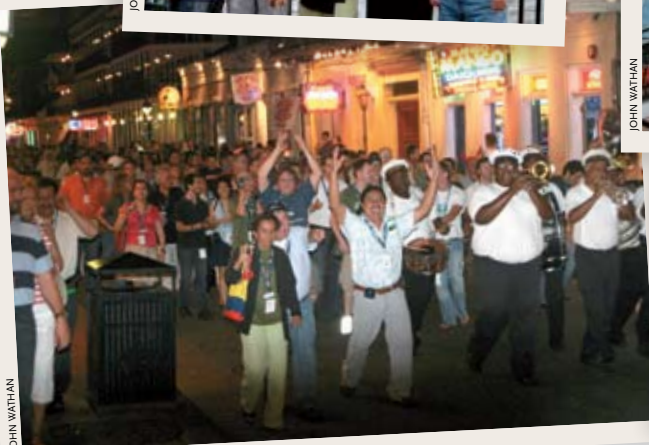
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Thank you.

The Cradle and Frontier

By Oliver A. Houck,
Professor of Law,
Tulane University

I have always
had hope for
water, lived
my life by it
and I believe
that for all
humans its
wellsprings
are too
powerful to
deny.

I grew up on the Hudson River, the cradle of the Waterkeeper movement. I skipped stones on the river off of Croton and crossed it, with my father, on the open ferries between Manhattan and Jersey City. We traveled over the skuzzy, garbage-strewn and foul smelling waters of the Hudson of that day and simply took them for granted. That was just the way rivers were. Finally, of course, some rivers started catching on fire.

What is striking, thinking back, is the extent to which the environmental movement arose from the water. At about the same time that Rachel Carson wrote *Silent Spring*, which had its own aquatic cast, she wrote *The Sea Around Us*, one of the first literary adventures into the deep since Jules Verne. Both brought the news of water in peril. Next came the reports from Thor Heyerdahl's Ra expeditions, his rafts trapped for days in oil slicks and plastic junk, and then Jaques Costeau, whose ocean expeditions and television programs alerted the world. Environmental awareness came from the sea.

It also came from water on land. It was the falls of the Hetch Hetchy Valley that captivated John Muir, and the fight to save that valley from a huge dam converted Muir's little collection of weekend hikers (men in suitcoats and ladies in full skirts carrying wicker picnic baskets up into the Sierra, imagine!) into a hard-charging and first-ever environmental organization, the Sierra Club. Half a decade later they would be tested yet again by another dam, even bigger, Glen Canyon on the Colorado River. Their fight to save this stretch of river led the IRS to cancel their tax exempt status, which they never recovered. Water projects were among the first *causa bellae* in America.

Then came the Santa Barbara oil spill and the closure of California's famous beaches, the Cayuga river in Cleveland caught fire, the Houston Ship Canal caught fire, a jetport was proposed for the Everglades, the water of New Orleans was pronounced unfit to drink, Lake Erie was pronounced dead (they held a mock funeral for it in Cleveland), and on the Hudson there was trouble over a pump storage plant at Storm King Mountain. It was all about water, and it was coming to a boil.

It is also striking how environmental law, once out of the water, hit the land like a walking catfish and never looked back. The law was outlined by the case at Storm King, from a remarkable alliance be-

tween blue-blood aristocrats of the Hudson Valley and blue-collar Stripped Bass fishermen who didn't care what Con Ed did to the top of that mountain, but cared a great deal about dead fish piled up on the grates of the water intakes of the plant like too much trash. They went to war, and out of the war came so many things: the Hudson River Fisherman's Association, Hudson Riverkeeper, the Highlands Conservancy, the Natural Resources Defense Counsel, the Pace Law Clinic and, from the Second Circuit Court of Appeals, a pivotal legal precedent. Ordinary citizens, they said, had the right to sue their government over environmental decisions. How insulting! That principle still boggles the mind of government agencies, the business world and their adherents on the bench, including the Supreme Court.

Think for a moment about the explosions that followed, coming out of the water like Polaris rockets. First there was Calvert Cliffs, brought by John Hopkins University scientists worried about the effects of thermal discharges from a nuclear power plant on Chesapeake Bay. The case established the rigorous demands of just-enacted, completely opaque, National Environmental Policy Act. Then came a series of cases against Army Corps of Engineers water projects, and equally celebrated fights with other water bureaucracies in California, the Dakotas and Tennessee. Meanwhile, the notion of water protection and its primary tool — citizen litigation — was moving abroad.

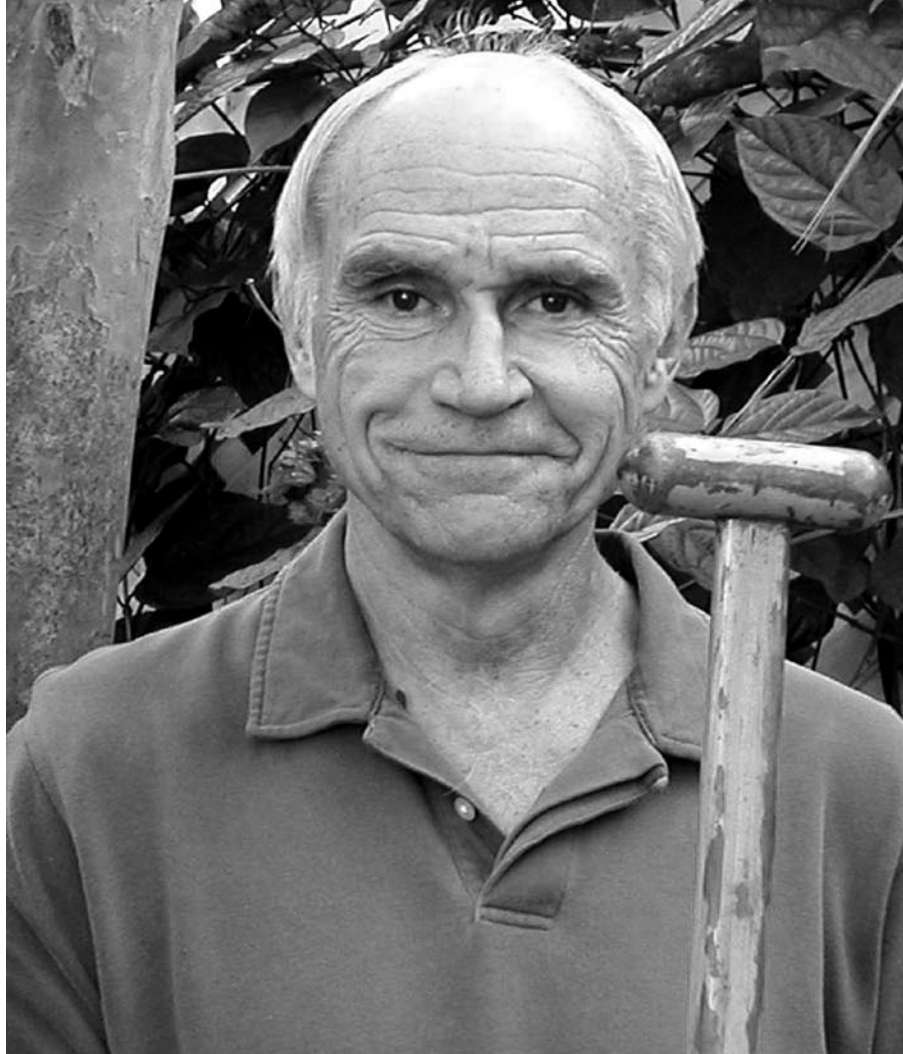
They popped up in the most unlikely places — countries not known for activism, independent judicial systems or environmental concerns. In Spain, citizens defeated water projects that would have drained the north to build desert resorts in the south. In Greece, citizen suits stopped a plan to drain the western mountains so that farms in the east would not have to treat their wastes. In India, M.C. Mehta won a series of decisions forcing five thousand factories on the sacred River Ganges to clean up or shut down. And in Canada, Waterkeepers played a key role in opposing, in court and out, a hydro-electric project drowning the homeland of the Cree Nation. You may remember the flotilla that paddled from Quebec province down the Hudson River in kayaks and canoes to rally in New York's Central Park and persuade the state to cancel its power contracts and save their heritage. Which

New York did. The combination of water and people and litigation was proving very powerful.

These victories duly noted, the water fight continues against terribly long odds. Much of it is about money, but it is also about psyches. At one point, during a hearing on a Corps water project, an exasperated government attorney turned to me and said, "The thing that's wrong with you is that you just like running water!" Of course, the man was absolutely right. But what was so startling about it was that he couldn't conceive of such a person. To him, his accusation was a huge insult. His outburst told me that the idea of keeping waters goes up against a mindset so alien — and to which we, keepers of water, are in turn so alien — that it is hard to find a common bond. Over time in America, after decades of education on the impacts of pollution, we have forged part of that bond. We have now reached the point where pollution is "bad." That is progress, and from this premise we can now move towards reform. But where the quantity of water and what passes for "water management" are at issue, we are no closer to finding common ground than we were fifty years ago. Water is money or water is wonder. The sides are drawn.

Here, now, is a darker story, written in levees, drainage canals, pump stations, chains of dams and diversion canals the size of interstate highways, all designed to make sure that water is cheap for some humans, at just about everyone else's expense. We continue to assert a non-negotiable right to every liquid drop lest, God-forbid, any water escape to remain in the river, breed fish, cool bodies and reach the sea. The challenges here are on an order of magnitude greater than those with pollution. Think: bragging rights. Nobody these days goes around boasting, "I dumped 20,000 pounds of phosphorous into the Apalachicola last week". But every politician wants his name on a water project — the Hoover Dam, the Thomas Bevil Lock, the J. Bennett Johnston Waterway (whose traffic is less than 10 percent of the benefits projected). We are building monuments, changing landscapes, doing manly things. These are the products of the U.S. Congress, tied by philosophy and campaign financing to the wealthiest industrial, agricultural and municipal water users, with their entourages of real estate developers and construction firms in close tow. Water conservation? Exactly who makes money doing that? No agency ever built a budget and no Congressman ever got reelected by not spending and not building something.

And then there is the obdurate fact of the law here. Western water law, unlike pollution control, does not harmonize use with anything else. It does not consider environmental impacts. Fish are irrelevant. Rivers are irrelevant. In the parts of the U.S. where water is the scarcest, the more you consume



the more legal right you have to consume. Water left in the river is "wasted". This is law written for settlers and pioneers. It is as anomalous today as indentured servitude. Whatever law we needed in order to settle this country, we need something quite different, quite soon, before we bleed ourselves dry. Examine history. It would not be the first time.

Yet, I have hope. I have always had hope for water, lived my life by it and I believe that for all humans its wellsprings are too powerful to deny. Once upon a time, it is said, a sultan was asked to identify, in his wisdom, the three most beautiful sounds on earth. He replied: "the sound of coins tinkling, the sound of a loved one laughing and the sound of water moving ... in reverse order." Water is life. Every religion on earth knows it. It is where millions of believers in dozens of faiths go to wash their sins. It is where Siddhartha goes to lie down, transcend and die.

I believe that if we finally pass through this dark phase of treating the earth like a throw-away toy, if we stop looking at cockamamie schemes like calcifying the oceans and inhabiting the moon as a way out, if we return to the natural world as a friend rather than a conquistador, it will be in large part because of the pull of water. It is drawing us forward even today to renew ourselves, to leave as our legacy, to lie down beside and transcend. [W](#)

Oliver Houck is an environmental law scholar and the founder of the Tulane Environmental Law Clinic, which provides free legal representation and community outreach to more than 180 community organizations, lower-income individuals and local governments throughout Louisiana. By representing clients who have historically been left out of governmental processes, the Clinic has become a powerful force for environmental reform.

NEW YORK HARBOR

CELESTE, FROM WHAT *AILMENT* DO THESE FISH SUFFER?

THEY'RE CONTAMINATED WITH *MERCURY*, GANYMEDE, BUT IT'S NOT THE FISH THAT WORRY ME. A QUARTER OF THE RESIDENTS OF NEW YORK CITY HAVE *ELEVATED LEVELS* OF MERCURY.

HALF A MILLION *CHILDREN* ARE BORN EACH YEAR IN THE U.S. WITH DANGEROUS LEVELS OF MERCURY IN THEIR BLOOD.

YOU *POISON* YOUR OWN CHILDREN?

WATERKEEPER

"Mercury Rising"

Story: Eddie Sober & Jeff Gomez
Art: Jeff Albrecht Studios & Chrysoia Artanis
Lettering: Scott O. Brown
Editor: Eddie Sober
Production: Starlight Runner Entertainment
Ganyমেদা created by Jeff Gomez & Savark Doupé

UNFORTUNATELY, YES. THIS STUFF IS A POTENT *NEUROTOXIN* -- EVEN AT MINUSCULE LEVELS. IT'S RELEASED IN THE SMOKE FROM PLACES LIKE THAT COAL FIRE *POWER PLANT* -- FALLS INTO THE WATER, GETS INTO THE FISH, INTO OUR BODIES.

WORSE THING IS, IT WOULD BE *EASY* FOR THEM TO STOP DOING THIS. THEY HAVE THE TECHNOLOGY TO CUT MERCURY *EMISSIONS* BY 90 PERCENT TOMORROW!

INDUSTRY *SLOTH* -- A TRAIT OF HUMANITY FROM THE AGE OF BRONZE. BUT I SUSPECT THERE IS SOMETHING *MORE* BEHIND THIS TRAVESTY!

HERMES!

WHOP

THE TEMPLE OF PHENEOS IN ARCADIA, GREECE

BROTHER! SHOW YOURSELF!

THAT'S *STEP-BROTHER*, GANYMEDE--





A full-page photograph of a sunset over a body of water. The sky is filled with clouds, some of which are illuminated with a vibrant orange and red glow from the setting sun. The water below is calm, reflecting the colors of the sky. In the distance, a dark silhouette of a shoreline is visible. A large, stylized orange curly brace graphic is positioned on the right side of the page, partially overlapping the text.

On The Water

Bill Yates

Ansel Adams said, "A good photograph is knowing where to stand." Jacksonville, Florida-based Bill Yates says, "A good photograph is knowing where to hover." Bill's two other shots featured in this issue are aerial photos (cover and page 51). This photo of the sunrise over the St. Johns River is part of his burning daylight series. www.cypix.net

On Thursday, September 6, 2007, the U.S. Senate Environment and Public Works Committee held a hearing on the public health and environmental impacts of factory farms and a proposal to further erode environmental protections.

Waterkeeper Rick Dove Senate Testimony



Former Neuse Riverkeeper and noted environmental advocate Rick Dove presented evidence of the terrible toll that animal factory wastes have wrought on the communities of North Carolina and the nation. As the second largest producer of hogs in the country, North Carolina is home to thousands of livestock factories, which release dangerous amounts of air and water pollution into neighboring communities and waterways.

Proponents of factory farming want to carve out a loophole for this pollution from two federal environmental laws: CERCLA, also known as “Superfund” and the Emergency Community Planning and Right to Know Act. These laws provide invaluable tools for communities and health officials concerned with the health impacts of factory farm pollution. Dove called on the Senate to exercise caution when considering proposals to weaken these laws, noting that for

30 years they have protected Americans and their environment, without misuse or abuse, and there is no justification for an exemption for any polluting industry, including factory farms. “A growing body of science clearly shows that dangerous gases – ammonia and hydrogen sulfide – emitted from factory farms are now wafting into surrounding neighborhoods, putting the public at severe risk,” explains Dove. “Animal factories have never had to report dangerous air emissions – they hide behind status as farms. But the evidence of their harm to public health, especially children, is growing. These exemptions are a preemptive strike to avoid responsibility.”

Senate Environment and Public Work Committee Chairwoman Barbara Boxer closed the hearing with a vow to fight any effort to exempt factory farms from pollution laws. "This is going to be a battle; I wanted to have this hearing today to draw the lines of this battle," said Boxer. "My first priority is to protect the health of the people."

Waterkeeper Alliance stands firmly behind Senator Boxer. Factory farms produce 500 million tons of animal waste a day, and most of it ends up in our streams, rivers and lakes, polluting our drinking water and air, jeopardizing our health. Waterkeeper Alliance is challenging factory farms across the nation, pushing state and federal agencies for strong regulations and strong enforcement to keep industrial agricultural waste out of our waters. At the same time we are also promoting sustainable food, because responsible farmers produce safer, tastier food that does not destroy, but depends on, a healthy environment. [W](#)

Factory Farms Are Big Polluters

Threemile Canyon Farms in Boardman, Oregon, a 52,000 dairy cow operation, emits 15,500 pounds of ammonia each day, more than the nation's largest reported industrial source of ammonia air pollution (fertilizer-maker CF Industries of Donaldson, Louisiana). Buckeye Egg's facility in Croton, Ohio emitted 1,600,000 pounds of ammonia in 2003. That's roughly 44 times EPA's public health limit, yet these emissions are completely unregulated.

I AM COW, NOT MACHINE.



Citizens of America Cows are beautiful creatures, not dairy machines. That's why we let them graze freely in organic pastures on our family farms. We never give our cows antibiotics or synthetic hormones to make them produce more milk. And we never use synthetic pesticides or fertilizers. By shipping milk from our cooperative farms to the nearest local markets, we're helping to build local systems. So our milk not only tastes good, it's good for you, good for cows, and good for the local economy, too.



"Water is the most critical resource issue of our lifetime and our children's lifetime.
The health of our waters is the principal measure of how we live on the land."

- Luna Leopold



AbTech Industries offers technologies to solve stormwater quality issues. These environmental technologies provide cost effective solutions that protect our critical water resources.

The Antimicrobial Smart Sponge technology has the capability to destroy dangerous bacteria contamination from stormwater while removing hydrocarbons.

There are solutions out there.

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