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FOR "AMERICA'S MOST ENDANGERED RIVER"

VOLUME 13, ISSUE 1 \$5.95





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A handwritten signature in black ink, appearing to read 'John Paul'.

John Paul DeJoria,
Co-founder and Chairman of the Board
Photographed with his son (and Joe)



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AbTech Industries proudly solutes Waterkeeper Alliance for their tireless efforts and dedication to defend local communities against real threats to their right to clean water.

Waterkeeper Alliance provides the necessary support for communities to stand up to anyone who challenges this right, from law-breaking corporate polluters to irresponsible governments. On over 250 waterways, covering the Great Lakes to the Gulf of Mexico, the Amazon to the Ganges, Waterkeepers are on patrol -- whether in kayaks or research vessels, they do what it takes to get there, to protect and to serve clean water rights.

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The logo for AbTech Industries features the word "AbTech" in a bold, black, sans-serif font. A small green leaf-like shape is positioned above the letter 'b'. Below "AbTech", the word "INDUSTRIES" is written in a smaller, all-caps, black, sans-serif font. The background of the entire advertisement is a photograph of a person's back and shoulders, glistening with water droplets, set against a bright, cloudy sky over a body of water.

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INDUSTRIES

NOTHING IS IMPOSSIBLE WHEN WE WALK TOGETHER: A CALL TO PROTECT THE PRECIOUS WATERS OF THE HIMALAYAS

With all of the negative energy, fake news, trolling, hate speech and more that are now invading our daily lives, it is refreshing to take some time to focus on people who are working together to create positive change.

Just a few months ago, I was in Ladakh, India with a small Waterkeeper team that had traveled to the Himalayas for the festival honoring the 11th-century Buddhist saint, Naropa. Under a bright blue sky in a field outside of Hemis monastery, I sat in a sea of more than 300,000 devotees of that faith who were listening intently to Waterkeeper Alliance's President Robert F. Kennedy, Jr., talk about clean water and citizen action, and urgently calling them to protect their vital Himalayan resources.

The perilous impacts of climate change in the Himalayas have been unfolding with alarming fury. This "Third Pole," embracing the largest field of glaciers outside of the polar ice caps, feeds the giant rivers of Asia, which support four billion people – nearly half of humanity. Encompassing territories in China, Myanmar, Bhutan, Nepal, India, Pakistan and Afghanistan, the Himalayan range is home to some of the most famous rivers in the world, including the Indus, Ganges, Yangtze, Brahmaputra, Mekong, Irrawaddy, Syr Darya and the Yellow. Tragically, these great lifelines have now become clogged with plastic litter, and extreme weather events have devastated many communities across this spectacular range of mountains.

The theme reverberating throughout the once-in-12-years festival of Buddhist spirituality, culture and tradition was loud and clear: we need strong action and creative solutions now to stop the destruction of the majestic Himalayan glaciers. The setting for Naropa 16 in the Ladakh region was doubly symbolic, as it is the home of the patron saint of the Drukpa lineage of Tibetan Buddhism, and is suffering from the intensifying effects of pollution and diminishing quality and quantity of glacier water. Its people are increasingly being sickened by unfiltered drinking-

water and besieged by flash floods, or "Himalayan tsunamis," wrought by massive "cloud bursts" and rapidly melting glaciers. And accelerating deforestation in the region has intensified the damage.

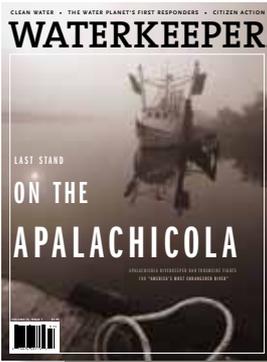
Amid these growing threats, the message coming out of Naropa was of action and hope, and many of those attending already have mobilized. Recently, 500 Drukpa lineage "Kung Fu nuns" bicycled 2,500 kilometers from Kathmandu to Ladakh to promote greater awareness both of the melting glaciers and of gender equality. And the Naropa festival was capped by a 10-day-long trek, known as an "eco padyatra," by thousands of monks, nuns and environmental volunteers into Ladakh's interior to bring attention to the hazards of non-biodegradable waste, as they picked up discarded bottles, cans and wrappers. To date, these treks have collected more than two tons of plastic waste that littered the land and waterways.

Waterkeeper Alliance, along with our partners in the region, is in the midst of growing a Himalayan Waterkeeper movement and is training a network of 50 clean-water advocates over the next year, including Drukpa nuns, monks and youth groups in India, Nepal and Bhutan. These grassroots advocates will monitor water-quality, investigate and solve pollution problems, and demand immediate climate action. Our deep commitment to educating and empowering the region's residents with information and solutions to protect their precious waterways, and their commitment to serve, raises great hope for the future.

It will take grassroots movements like this and more of them to force action on this crisis, and we must work together to help overcome the negative forces of a world still too often fueled by greed. The effort to find and eliminate sources of pollution, educate the public, and demand climate action saves lives and livelihoods. Throughout this journey, we must remember that nothing is impossible when we walk together.



WATERKEEPER ALLIANCE'S INTERNATIONAL DIRECTOR, SHARON KHAN, EXECUTIVE DIRECTOR, MARC YAGGI, PRESIDENT, ROBERT F. KENNEDY, JR., AND HIMALAYAN GLACIER WATERKEEPER STAFF MEMBER, DECHEN ANGMO, WITH AN EXPLORERS CLUB FLAG AND WATERKEEPER ALLIANCE PENNNANT ON THE INDUS RIVER IN LADAKH, INDIA.



ON THE COVER:

The cover photo, titled "Sunday Morning, Scipio Creek," is by renowned photographer and photojournalist Richard Bickel. His photography spans 70 countries and has been published throughout the world. He resides in Apalachicola, where he maintains a gallery of his photography in the town's historic district.

Design by BoyBurnsBarn/John Turner

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Waterkeeper magazine is printed on chlorine-free, FSC-certified Rolland Enviro 100 Satin 100% post-consumer recycled paper which is manufactured with biogas energy. This paper is certified by Ecologo and by Smartwood for FSC standards which promote environmentally-appropriate, socially-beneficial and economically-viable management of the world's forests.

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The official magazine of Waterkeeper Alliance

MISSION: Waterkeeper Alliance strengthens and grows a global network of grassroots leaders protecting everyone's right to clean water.

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square miles of watersheds



35 countries

Who Is Waterkeeper Alliance?

more than 305 waterways



Snake River Waterkeeper is the sole organization dedicated to water-quality monitoring and fisheries habitat improvement on the Snake River and its tributaries.

It was founded in 2014 to address water-quality problems in the Snake River Basin. Attorney Buck Ryan (above) serves as the Waterkeeper. "The Snake River has long been polluted by traditional agriculture and its fisheries diminished by dams," Buck says. "More alarming still are recent water-quality declines across the basin due to the proliferation of dairy and aquaculture operations. Right now, we're taking on these ecologically devastating industries to protect Idaho's water for fisheries and future generations."

In 2015 and 2016, Snake River Waterkeeper filed two major federal lawsuits, monitored water quality at more than 100 sites on the Snake River and its tributaries, commented on nine federal proposals, coordinated 25 guides and outfitters acting as pollution watchdogs for particular river reaches, helped collect more than 60,000 signatures for a petition asking President Obama to remove four dams on the Lower Snake River, and inspired more than 100 volunteers to clean up trash on local rivers.

"Applying law and science to protect and restore the waters of the Snake River Basin isn't just our mission," Buck says. "It's our passion."

Follow Snake River Waterkeeper on Facebook, and learn more about Snake River Waterkeeper's work – and how you can help – at www.snakeriverwaterkeeper.org.

Waterkeeper Alliance unites a global network of grassroots leaders fighting for clean water as a fundamental human right. We're the largest and fastest growing nonprofit solely focused on clean water. Our goal is swimmable, drinkable and fishable water everywhere. Today, Waterkeeper Alliance is made up of over 300 Waterkeeper organizations protecting rivers, lakes and coastal waterways on six continents. Our proudest accomplishment is the depth and breadth of our member organizations and the unity of their vision for clean water and healthy watersheds.

Everyone has the right to clean water. It is the action of supporting members that ensures our future and strengthens our fight for clean water. To join Waterkeeper Alliance go to www.waterkeeper.org and click on "Donate Now" to join as a supporting member. You can also join by mail. Send your check, payable to Waterkeeper Alliance, to WATERKEEPER Membership, 180 Maiden Lane, 6th Floor, New York, NY 10038

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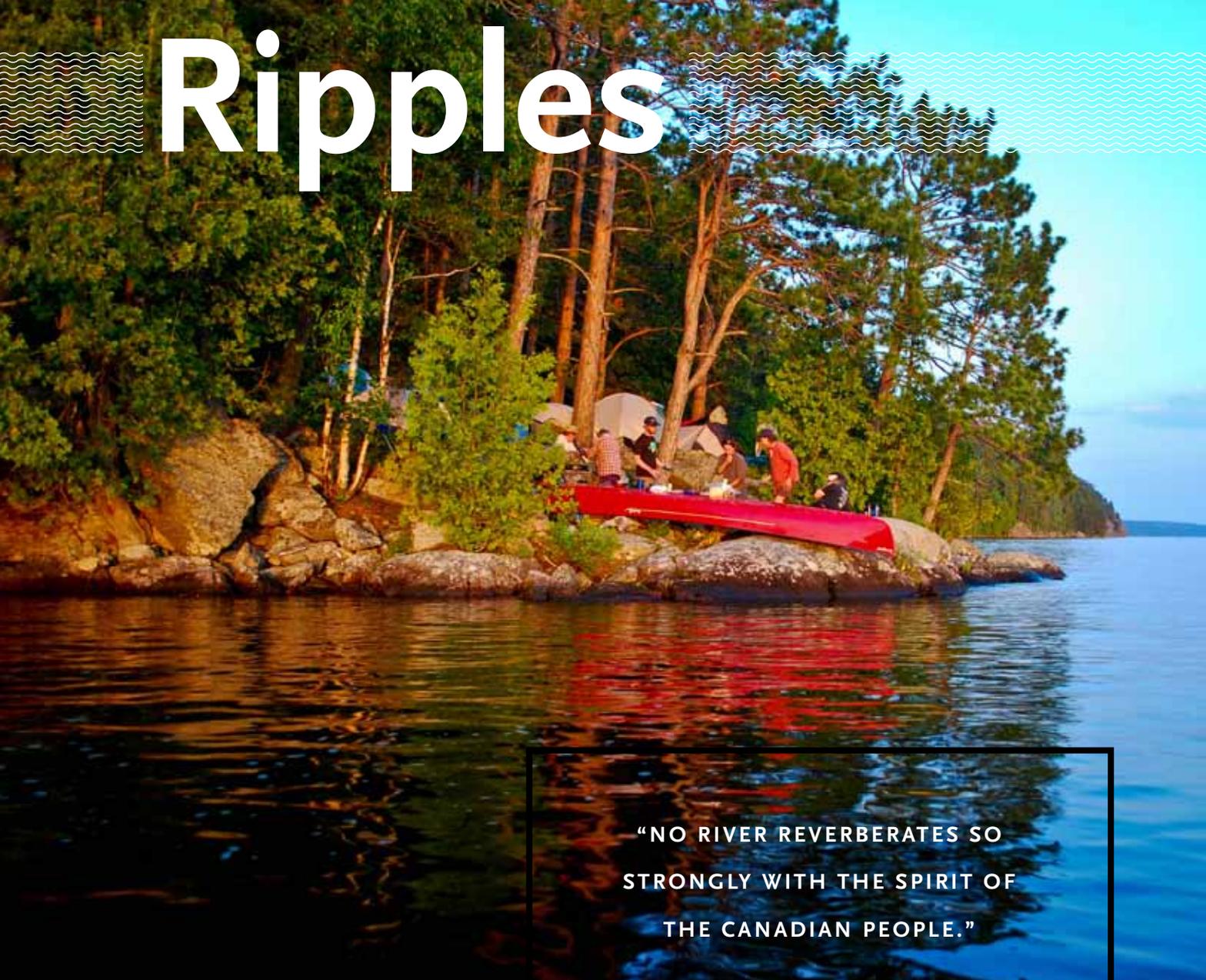
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“NO RIVER REVERBERATES SO STRONGLY WITH THE SPIRIT OF THE CANADIAN PEOPLE.”

OTTAWA RIVERKEEPER MEREDITH BROWN

OTTAWA RIVERKEEPER CELEBRATES HERITAGE STATUS FOR THE OTTAWA RIVER

It has been a long time coming: the river that flows through Canada’s capital and is safeguarded by Ottawa Riverkeeper has been formally designated a Canadian Heritage River.

The designation was announced jointly by the Federal Minister of Environment and the Ontario Minister of Natural Resources, who praised the Ottawa River’s “outstanding cultural and heritage values.”

Ottawa Riverkeeper is thrilled. “No river reverberates so strongly with the spirit of the Canadian people,” said Riverkeeper Meredith Brown. “The Ottawa River brings together the peoples of Ontario, Quebec, and First Nations. It has been the lifeblood for those who have lived in the river’s watershed for thousands of years, and it continues to shape our communities and our country.”

The road to Heritage status began more than 10 years ago, under the leadership of Len Hopkins, former member of Parliament and William Commanda, former Chief of the Kitigàn-zìbì Anishinàbeg First Nation and member of the Order of Canada. Hopkins and Commanda travelled the watershed for several years collecting stories, uniting people around the Ottawa River, and advocating for a Heritage River nomination. Sadly, a stall at the political level meant Hopkins and Commanda passed away before



OTTAWA RIVERKEEPER



MIKE BEEDELL PHOTOGRAPHY



PHOTO BY DUNCAN MARSHALL

ABOVE LEFT, CAMPING ON THE WILD AND BEAUTIFUL UPPER OTTAWA RIVER. TOP, LOOKING UP WHILE IMMERSSED IN THE OTTAWA RIVER. ABOVE, THE OTTAWA RIVER AS IT FLOWS THROUGH CANADA'S CAPITAL, OTTAWA.

they could see that nomination become a designation.

In the last two years, Ottawa Riverkeeper took the lead to rally for Heritage Designation. In May 2015 Ottawa Riverkeeper brought together more than 200 people from diverse sectors within the watershed, including municipal governments, First Nations, businesses, provincial and federal agencies and not-for-profit organizations for an Ottawa River Summit held in Gatineau, Quebec. Signatories agreed to work together to acknowledge and celebrate the cultural, heritage, and natural values within the

Ottawa River Watershed. In July 2016, the federal government finally recognized and named the Ottawa River as one of Canada's most important Heritage Rivers.

"Our shared river is rich in history and has played a critical role in shaping our culturally unique communities, and that is something we can all agree on," said Brown. "This designation will enhance our collective sense of river pride and inspire people to respect and protect the river that flows through their communities and through their veins."

IN JULY 2016, THE FEDERAL GOVERNMENT FINALLY RECOGNIZED AND NAMED THE OTTAWA RIVER AS ONE OF CANADA'S MOST IMPORTANT HERITAGE RIVERS.



“IT’S WHAT I DO BEST, JUST SENT A REPORT OF A
WRECKED STREAM-BUFFER ON A SALMON STREAM.

I LOVE STOPPING POLLUTION.”

NORTH SOUND BAYKEEPER LEE FIRST, RIGHT, PARTICIPATES IN THE THIRD ANNUAL CLEANUP OF BAKER LAKE, NEAR THE NORTH CASCADES NATIONAL PARK. MT BAKER IS IN THE DISTANCE.

NORTH SOUND BAYKEEPER LEE FIRST

**A PHONE
RINGING
ALONG
PUGET
SOUND
COSTS
BNSF
\$75,000
EVENTUALLY**

In February 2014, North Sound Baykeeper Lee First, who patrols North Puget Sound, got a call from a concerned community member who noticed creosote railroad-ties had been dumped in a creek, and were leaching into the water. Be it the danger of oil trains or stormwater flowing from rail yards, First was familiar with pollution from railroads in and around her location in Bellingham, Washington.

Creosote is a coal-tar that is toxic to aquatic life, and is widely used on railroad-ties because it is a long-lasting wood preservative. The caller sent a few photos to First, who saw oil-stained water flowing from the creek toward the Nooksack River.

Within an hour of the call, First sent an online report to the Washington State Department of Ecology. She then investigated further by air with the help of a pilot friend. By land and air, she found hundreds, perhaps thousands, of freshly oiled creosote railroad-

ties lying partially in the water. Oily sheens were also spreading into Chuckanut Bay and Bellingham Bay. First took photos and submitted further reports to the Department of Ecology.

Her next step was to visit the railroad switchyard in downtown Bellingham, where piles of railroad-ties were dripping into a wetland after a rainstorm. She took more photos, and sent more reports.

The Department of Ecology investigated and submitted water-quality samples to the state laboratory for testing. But, says First, “the wheels of government move slowly, especially when issuing fines to industry.” It was a year before the Department issued BNSF Railroad an \$86,000 fine for water-quality violations. The company removed all the railroad-ties but appealed the fine. Ultimately, to avoid further legal action, it reached a settlement and agreed to pay \$75,000, with \$45,000 earmarked for restoration in the south fork of the Nooksack River or the nearshore marine environment in Whatcom or Skagit counties.

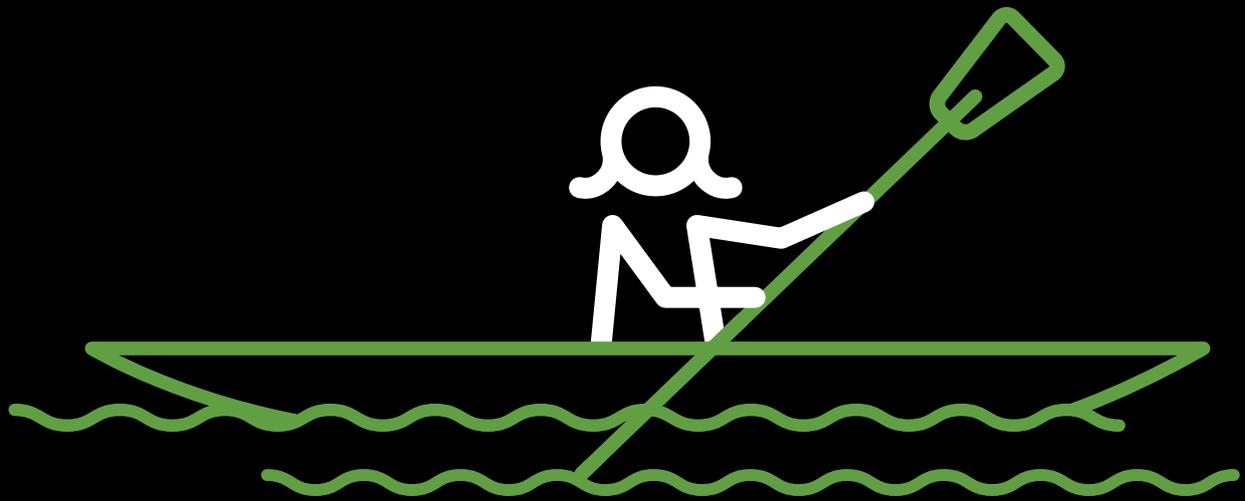
As part of the settlement, BNSF also agreed to obtain seasoned ties (free of dripping preservative) for future projects, to store new ties in areas less likely to contact flowing water, and to take measures to ensure that, during projects, ties do not roll down embankments into water.

Like all members of Waterkeeper Alliance, North Sound Baykeeper maintains a 24-hour pollution-reporting hotline. First has submitted more than 1,500 reports over the last nine years to the Washington State Department of Ecology, chronicling a variety of pollution violations.

“Yup. It’s what I do best,” she said with a smile. “Just sent a report of a wrecked stream-buffer on a salmon stream. I love stopping pollution.”

--Lesley Adams, Western Regional Coordinator

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PHOTO BY NELSON BROOKE, BLACK WARRIOR RIVERKEEPER. FLIGHT BY SOUTHWINGS.ORG.

AERIAL VIEW OF ACID MINE DRAINAGE AND POLLUTED RUNOFF FROM MAXINE MINE ENTERING THE LOCUST FORK OF THE BLACK WARRIOR RIVER (BOTTOM LEFT).

SUIT DEMANDS DRUMMOND CLEAN UP MESS IT LEFT ON THE BANKS OF BLACK WARRIOR RIVER

Black Warrior Riverkeeper, the Southern Environmental Law Center (SELC) and Public Justice filed a notice of intent to sue in September against Drummond Company for violations at its Maxine Mine site, an abandoned underground coal mine located on the banks of the Locust Fork, a major tributary of the Black Warrior River near Praco, Alabama. The groups are seeking removal of the mining waste, excavation and/or remediation of contaminated streams, and other appropriate measures by Drummond to stop immediately all illegal discharges at the site.

Although mining at Maxine Mine ceased in the 1980s, acid-mine drainage has been illegally discharging from the site into the Locust Fork and its tributaries through surface water runoff and seeps from

the underground mine for years. The site also stores tons of mining waste known as geologic overburden, or “GOB,” on a bluff above the Locust Fork. This waste has completely filled a tributary of the Locust Fork, and contributes to the polluted water running off the site.

This situation, says Barry Brock, senior attorney at SELC, “is simply unacceptable. It continues to pose a threat to water quality, and the communities and wildlife in the area that depend on clean water.”

The site consists of underground mine-works, surface piles of mining waste, and a

system of drainage ditches and earthen dams used to create sediment basins for runoff. These basins are continuously leaking polluted water and the dams hold acidic coal-mine drainage and GOB. The main dam by the river has deteriorated and threatens to breach, which could result in a massive release of pollutants into the Locust Fork, a popular location for fishing, boating and other outdoor recreation. These discharges and those from hundreds of other abandoned mines in the Black Warrior basin contain high levels of heavy metals such as iron and aluminum.

As outlined in the notice letter, the groups claim that the ongoing discharges to the Locust Fork and illegal filling of its tributaries are violations of the Clean Water Act, and that improper management of solid wastes violates the Resource Conservation and Recovery Act.

“Polluted water from Maxine Mine’s old underground works and coal waste piles has been flowing into the Locust Fork of the Black Warrior River for far too long,” said Nelson Brooke, Black Warrior Riverkeeper. “The acidic runoff at this long-ignored site is laden with high concentrations of heavy metals unfit for fish and aquatic wildlife and human health.”

“The Maxine Mine site is a striking reminder of the pervasive and long-lasting impacts of coal mining,” said Richard Webster, Environmental Enforcement Project attorney with Public Justice. “Drummond has a responsibility to clean up the mess unleashed by mining operations at the site, and the notice is an urgent effort to compel the company to take action now.”

“POLLUTED WATER FROM MAXINE MINE’S OLD UNDERGROUND WORKS AND COAL WASTE PILES HAS BEEN FLOWING INTO THE LOCUST FORK OF THE BLACK WARRIOR RIVER FOR FAR TOO LONG,”



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TRAIL BRIDGE ABOVE THE FUTALEUFÚ RIVER IN THE FUTALEUFÚ NATIONAL RESERVE.

PHOTO BY VALENTINA ROQUESEIS

FOR A PATAGONIAN RIVER, A VICTORY OF BIBLICAL PROPORTIONS

“COMMUNITIES
ALL OVER
CHILE AND
ESPECIALLY IN
PATAGONIA
HAVE
ALREADY
DECIDED
WHAT THEY
WANT.
IT IS ONLY
THOSE IN
POWER
WHO HAVE
NOT BEEN
LISTENING.”

It was the latest advance in a protracted battle to save the Futaleufú River in Chilean Patagonia, a battle that Futaleufú Riverkeeper and fellow community and environmental organizations began nine years ago.

Last August, Endesa Chile, part of the multinational energy consortium Enel, announced it was relinquishing all plans to develop large hydroelectricity projects on the Futaleufú and other Chilean Rivers in a remote region known for its undisturbed fjords, high mountain peaks and glacier-fed rivers. Endesa, which recently changed its name to Enel Generacion Chile, cited the high cost of maintaining water rights without using them, technical and economic difficulties facing dam projects, and, notably, resistance from local communities and environmental groups, who acted as a formidable David against the energy Goliath.

Those communities had won another battle in 2014 when Endesa abandoned its plans to build two dams that, harnessing energy from the Futaleufú’s whitewater rapids, would have inundated spectacular landscapes. Reservoirs behind the dams would have drowned farming communities under 75 feet of water and left a much reduced and tamed river downstream.

Under the dictatorship of Augusto Pinochet from 1973 to 1990, Chile’s constitution and water code were rewritten, privatizing all Chile’s rivers. Pinochet’s economic policies merged the interests of the state with those of powerful businesses. Water rights belonged to whichever corporation was ready to claim and pay for them. In the years since Pinochet, there have been

continuing efforts to reform this anti-democratic policy. The state can now fine corporate owners for not using the rights, with fees that escalate over time, but they can recover those fees once they begin construction of a dam. Opinion over the effectiveness and fairness of the “water market” created by Pinochet remains deeply divided, with free market advocates extolling the system’s

efficiency and effectiveness and a growing chorus of voices highlighting its ingrained and unquestionable inequity. One thing is clear: much remains to be done before Chileans regain the rights to their waters and other natural resources.

“Still,” said Futaleufú Riverkeeper Rocio Gonzalez, “this decision by Endesa is a sign that our communities are finally starting to win. We now call upon the government and policymakers to listen to the people and agree that our rivers are important enough to protect permanently.”

“This is an extraordinary triumph for Patagonia,” said Patrick Lynch, the Riverkeeper’s staff attorney and international director. “The victory belongs to a half-dozen activist groups composed of local farmers, river guides, fishermen and outfitters, and to the thousands of river lovers around the world and the international environmental groups who supported our fight against the dams.”

Futaleufú Riverkeeper is reviewing ways to secure water rights on the river to protect it from development until a more permanent solution can be worked out. What is needed now is a public call for water-code reforms to end privatization of water rights. This recent victory, Lynch said, “has given us a common point around which we can rally.”

To González it reflects the will of the people:

“Communities all over Chile and especially in Patagonia have already decided what they want. It is only those in power who have not been listening. This news will motivate our community to keep fighting and doing what they have always been doing, which is living in harmony with the natural environment.”

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PHOTO BY CHRISTINE RUCKER

YADKIN RIVERKEEPER WILL SCOTT IN FRONT OF THE ENTRANCE TO DUKE ENERGY'S COAL-FIRED BUCK STEAM STATION.

FEDERAL SETTLEMENT REQUIRES DUKE PLANT TO STOP BUCKING THE LAW

"AFTER TWO YEARS OF FIGHTING THE LARGEST UTILITY IN THE COUNTRY, THE DUKEVILLE COMMUNITY WILL FINALLY BE ASSURED OF THE TWO THINGS WE HAVE BEEN FIGHTING FOR: A LONG-TERM SUPPLY OF CLEAN DRINKING-WATER AND MEANINGFUL ASH CLEANUP."

Yadkin Riverkeeper and Waterkeeper Alliance reached a settlement with Duke Energy in September that requires the utility to remove more than five million tons of coal ash from unlined, leaking pits at Duke's Buck Steam Station on the Yadkin River near Salisbury, North Carolina. Under the agreement, Duke Energy must remove all the ash and either recycle it into concrete or put it in a modern, lined dry landfill away from the river and separated from groundwater and drinking-water sources.

Driven by litigation and advocacy by Waterkeepers and other environmental groups in North Carolina, Duke Energy has now committed to fully cleaning up eight of its 14 coal-ash sites in the state. Litigation continues regarding its unlined and polluting coal-ash storage at the six remaining sites, where Duke has sought to close the unlined ponds by draining the water and installing a cap over the coal ash, which would continue to pollute rivers and ground water.

The Buck site had been a high priority for Yadkin Riverkeeper and Waterkeeper Alliance ever since their water testing revealed alarming levels of contaminants associated with coal ash in residential drinking water wells near the ash ponds. Dozens of homes surround the perimeter of the site, each with a drinking water well that taps groundwater just a few hundred feet from the

massive leaking coal-ash ponds.

"After two years of fighting the largest utility in the country, the Dukeville community will finally be assured of the two things we have been fighting for: a long-term supply of clean drinking-water and meaningful ash cleanup," said Yadkin Riverkeeper Will Scott. "Duke Energy has finally entered into a binding agreement that requires them to do what the community and Riverkeepers have been asking all along."

The conservation groups have been pressing litigation against Duke Energy for its coal-ash storage at the Buck site since 2013, and the federal suit was filed in 2014, after the North Carolina Department of Environmental Quality had failed to take action against violations at Buck. In 2015, the federal court stated that it could not conclude that DEQ was diligently prosecuting Duke Energy for pollution at that site.

"There was a Riverkeeper working at every one of the eight sites across North Carolina that Duke Energy has agreed to clean up," said Pete Harrison, staff attorney for Waterkeeper Alliance. "The Alliance and Yadkin Riverkeeper were the first ones to sample wells around Buck and show that there were dangerous levels of metals associated with coal ash. Buck is an example of what we expect to see utilities across the country doing in the coming years: moving their ash to avoid being sanctioned by their own investors."



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PHOTOS BY NY/NJ BAYKEEPER

AW SHUCKS, NY/NJ BAYKEEPER BUILDS THE FIRST LIVING SHORELINE IN NY/NJ HARBOR

NY/NJ Baykeeper and partners have begun to install a first-of-its-kind urban living shoreline and oyster habitat at Naval Weapons Station Earle in Monmouth County, New Jersey. The 0.91-acre shoreline consists of an artificial reef containing oysters and concrete structures known as oyster castles to fortify and protect the coast along the shore of Raritan Bay. These castles provide the necessary hard surface for oysters to attach and grow on. In just the first two months of the project, oysters growing on the oyster castles that compose the living shoreline grew 21.9 millimeters.

After Hurricane Sandy in October 2012, the immediate priority of coastal resiliency became clear, and this living shoreline will provide data to assess threats such as sea-level rise from climate change and shoreline erosion. The project will determine whether or not a living shoreline can stabilize the mouth of Ware Creek, which enters the bay near Belford, protect the surrounding environment, improve water quality, and create aquatic habitat in the urban NY/NJ Harbor Estuary.

NY/NJ Baykeeper is thankful for the support of the U.S. Navy, which has been its partner since 2010, when the New Jersey Department of Environmental Protection banned all shellfish research, restoration and educational activities in waters classified as “restricted” or “prohibited” for harvesting shellfish.

The living-shoreline project has received permits from the New Jersey Department of Environmental Protection and the U.S. Army Corps of Engineers.

Oysters have unique capabilities to filter and clean water, provide habitat for other sea creatures, and improve resiliency to storm-surge and erosion. They once thrived in the New York-New Jersey Harbor Estuary – indeed, Ellis Island, off lower Manhattan, was once called “Little Oyster Island.” By the late 19th century, however, overharvesting, pollution and sedimentation of reefs resulted in a sharp population decline, and there is no longer a sustainable oyster population in the harbor area.

*Meredith Comi,
Restoration Program Director,
NY/NJ Baykeeper*

NY/NJ BAYKEEPER AND PARTNERS RUTGERS UNIVERSITY AND NAVAL WEAPONS STATION EARLE INSTALL THE FIRST LIVING SHORELINE TO NY-NJ HARBOR ESTUARY WATERS USING CONCRETE BLOCK STRUCTURES KNOWN AS OYSTER CASTLES.

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CAPABILITIES
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PHOTOS BY SAN FRANCISCO BAYKEEPER

ABOVE LEFT, SCHNITZER STEEL, AN OAKLAND AUTO AND METAL RECYCLING FACILITY, WAS ORDERED BY REGULATORS TO BETTER CONTROL TOXIC WASTE BLOWING INTO SAN FRANCISCO BAY AS A RESULT OF BAYKEEPER'S ADVOCACY. ABOVE RIGHT, BAYKEEPER STAFF SCIENTIST IAN WREN COLLECTS A SAMPLE OF BAY WATER POLLUTED WITH TOXIC DUST BLOWING FROM A SHIP REPAIR FACILITY. THE SAMPLE CONTAINED POLLUTION AT 20,000 TIMES THE LEGAL LIMIT, AND BAYKEEPER FILED A LAWSUIT THAT RESULTED IN THE COMPANY SIGNIFICANTLY IMPROVING ITS OPERATIONS.

SAN FRANCISCO BAYKEEPER'S VICTORIES TO STOP INDUSTRIAL POLLUTERS NOW TOTAL OVER THREE DOZEN

A suit by San Francisco Baykeeper under the Clean Water Act has yielded an agreement with the Granite Rock Company to prevent contaminated rain water from running off its concrete plant into San Francisco Bay. This legally binding agreement marks the 37th victory in San Francisco Baykeeper's Bay-Safe Industry Campaign, launched a little over four years ago, to require industrial facilities to implement controls to keep illegal, heavily polluted storm water from draining into San Francisco Bay.

Recent tests from Granite Rock's Redwood City facility showed that the site was releasing storm water with elevated levels of iron and suspended solids (a measure of small particles of silt and industrial waste). The runoff was also highly alkaline, a common problem associated with concrete manufacturing, which can have negative effects on marine life and overall water quality.

In a legally binding settlement with San Francisco Baykeeper, Granite Rock has agreed to install an extensive filtration treatment system to remove both total suspended solids and heavy metals from storm water flowing off the plant site, and the company will closely monitor and report on site runoff. Baykeeper will keep tabs on the company's outflows and require more stringent measures if necessary.

The previous 36 victories included cleanup of toxic pollution by:

- the West Coast's largest dry-dock
- the nation's fourth-largest steel foundry
- the Bay Area's only coal bulk-shipping terminal
- fourteen waste collection facilities
- three concrete-production plants
- three electronics-recycling facilities
- four auto dismantlers

Their locations range across the Bay Area, from Napa and Benicia at the bay's north, to San Francisco, Marin, East Bay, and to the south in San Jose and Sunnyvale.

There are over 1,300 industrial facilities in the Bay Area, most of which are not doing what's required to keep high concentrations of dangerous pollutants, such as heavy metals and petroleum hydrocarbons, from being washed into San Francisco Bay by rain. Such contaminants harm people and wildlife. And in Baykeeper's experience, this threat has become amplified during the current California drought; when rain is less frequent, pollution can be more concentrated.

Documenting pollution often means collecting samples of runoff from the facility for laboratory analysis. This provides evidence for filing a Clean Water Act lawsuit, which is necessary to reach an agreement that legally requires the company to reduce pollution. San Francisco Baykeeper's legal and scientific staff then visit the site, discuss operations with facility owners, and recommend controls that will be most effective and cost-efficient at reducing pollution. Once Baykeeper and the company agree on the actions the company must take, the parties sign a legally binding agreement that specifies required pollution reductions, actions and deadlines. For the following three to five years, Baykeeper monitors the progress of the pollution reduction.

One facility that is well on its way to cleaning up is the Levin Bulk Shipping Terminal in Richmond, currently the Bay Area's only coal export facility. Levin also handles toxic petroleum coke, a by-product of nearby oil refining, and shredded metal for shipment overseas. After a two-year legal battle—during which the company denied contributing to significant water pollution despite sampling data showing otherwise—Baykeeper secured a clean-up agreement with Levin requiring over \$1 million in facility upgrades to keep coal and petroleum coke out of San Francisco Bay. The facility closed a number of storm water outfalls, installed advanced treatment filtration, retrofitted their conveyer systems to be fully enclosed, sealed storage docks to eliminate cracks that had allowed pollution to directly enter the bay, and implemented new protocols to restrict loading activities in windy weather. The facility is now on track to stop releasing pollution into San Francisco Bay via storm water and direct discharges by next year.

Eighteen of the 37 facilities that have signed agreements have already concluded their required cleanups and have stopped polluting the bay. Baykeeper continues to investigate and discuss cleanup plans with more industrial facilities.



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Ripples

RIGHT, NIAGARA FALLS VIEWED FROM THE AMERICAN SIDE. MIDDLE, NIAGARA RIVER GORGE PHOTOGRAPHED AT DEVIL'S HOLE STATE PARK. BOTTOM, BUFFALO NIAGARA RIVERKEEPER STAFF PLANT TREES AT A HABITAT RESTORATION PROJECT ALONG THE BUFFALO RIVER.

COLOR BUFFALO NIAGARA RIVERKEEPER ROYAL BLUE WITH GLOBAL LEADERSHIP AWARD

Buffalo Niagara Riverkeeper's extraordinarily successful restoration of the Niagara River and its watershed was recognized in September in New Delhi, India with the Thiess International Riverprize.

The award, which comes with a \$150,000 cash prize, was granted by the Australia-based International RiverFoundation at its annual Riversymposium. Each year the Riverprize, one of the world's top environmental awards, recognizes a river system and the organization associated with it that has achieved outstanding results in sustainable river-basin management, restoration and protection.

Pointing to Riverkeeper's work to revitalize the Buffalo River and envision and enhance the Niagara River Greenway, Mayor Paul Dyster of Niagara Falls saluted Riverkeeper as a deserving recipient of the award and "a shining example to their colleagues in the Great Lakes Region and beyond."

Riverkeeper, which has been working for more than 25 years to improve the Niagara River watershed and the environment in neighboring communities, also won the inaugural North American Riverprize in May 2015. This achievement qualified the organization to be a finalist in the Thiess International Riverprize competition.

The Thiess International Riverprize was first awarded in 1999.



BUFFALO NIAGARA RIVERKEEPER

Jill Jedlicka, executive director of Buffalo Niagara Riverkeeper, said that the recognition by the International RiverFoundation demonstrates the global importance of the Great Lakes Basin and the surrounding region in the struggle to protect and restore waterways.

"We are humbled and grateful for this recognition," she said. "This honor is dependent upon and shared with our entire community, and is a testament to the decades of civic engagement by our innovative staff and board, dedicated partners and other individuals. This is a proud moment for our organization and community, as we have put the Buffalo Niagara region on the global map as a model for water-resource protection and transformation."

The work of restoring and protecting the Niagara River watershed, including the massive Buffalo River restoration, began in 1989 as a volunteer-based, grassroots effort. Riverkeeper galvanized the undertaking through large-scale volunteer programs, civic engagement in clean water advocacy, water-based education programs and ecosystem planning and restoration. The challenges tackled over the years have included cleaning up toxic sediment, eliminating sewage overflows, restoring critical habitat, and advocating for the long-term health of the Great Lakes.

"Today," added Jedlicka, "the Buffalo Niagara region once again sees the Great Lakes and access to fresh water as a major component of regional economic revitalization."

To learn more about Buffalo Niagara Riverkeeper, visit them online at bnriverkeeper.org, and on Facebook at [Facebook.com/bnriverkeeper](https://www.facebook.com/bnriverkeeper).



BUFFALO NIAGARA RIVERKEEPER



THE BUFFALO NEWS

"TODAY THE BUFFALO NIAGARA REGION ONCE AGAIN SEES THE GREAT LAKES AND ACCESS TO FRESH WATER AS A MAJOR COMPONENT OF REGIONAL ECONOMIC REVITALIZATION."



PHOTOS BY RINCHEN WACHER

STAFF FROM HIMALAYAN GLACIER WATERKEEPER AND ITS AFFILIATES DURING TRAINING IN WATER-QUALITY MONITORING IN LADAKH, INDIA.

WATERKEEPERS ASCEND THE HIMALAYAS TO HELP LOCALS RAISE WATER QUALITY

Last July, International Director Sharon Khan and two experts on water-quality monitoring – Milwaukee Riverkeeper Cheryl Nenn and former Waccamaw Riverkeeper Christine Ellis – travelled to the Ladakh region in the Indian Himalayas to train a growing network of Waterkeepers there. The trip was part of Waterkeeper Alliance’s Himalayan Water Project, the alliance’s effort, in partnership with Live to Love International and Himalayan Glacier Waterkeeper, to protect Himalayan glaciers and rivers from pollution and climate change.

The team saw firsthand the devastating effects of climate change. Everywhere in Ladakh, rivers and streams are running dry. In some instances, developments are being built directly on top of them. More volatile weather systems, such as cloudbursts

that create powerful floods, have devastated communities, taking lives and livelihoods. Increased tourism has brought rapid development in Leh, the capital city of Ladakh, in spite of decreasing water

supplies as glaciers retreat. Adding to the threat of decreasing water supplies, many of the region’s streams are seriously polluted. In the face of all this, the alliance’s goal is to provide a growing network of Waterkeepers with the tools and training to monitor the quality of these streams and protect their precious water resources.

The inaugural event was held July 20th at the Druk Padma Karpo School. Present were Himalayan Glacier Waterkeeper Padma Tashi, His Eminence Thuksey Rinpoche, one of two spiritual heirs to His Holiness the Gyalwang Drukpa, leader of the Drukpa lineage of Buddhism and founder of the Waterkeeper network in Ladakh, and Dr. Sonam Dawa Lonpo, chief executive of the Ladakh Autonomous Hill Development Council. Also attending were the leaders of Himalayan Glacier Waterkeeper’s 20 affiliates, all of them Drukpa monks who are dedicated to protecting the well-being of their communities, and many Drukpa nuns, students and area residents.

When they first arrived, Sharon, Cheryl, and Christine witnessed locals washing trucks, cars and carpets on a tributary of the Indus River, alongside signs warning that this was illegal. Severe algal blooms in the stream were evidence of the pollution caused by these activities. But the day after the launch event, there were no violations in sight, because access to the tributary had been blocked. His Eminence Thuksey Rinpoche had asked the chief executive councilor to intercede. The entrances to the stream were bulldozed, and concrete barriers were put in place. This has been one small victory in a

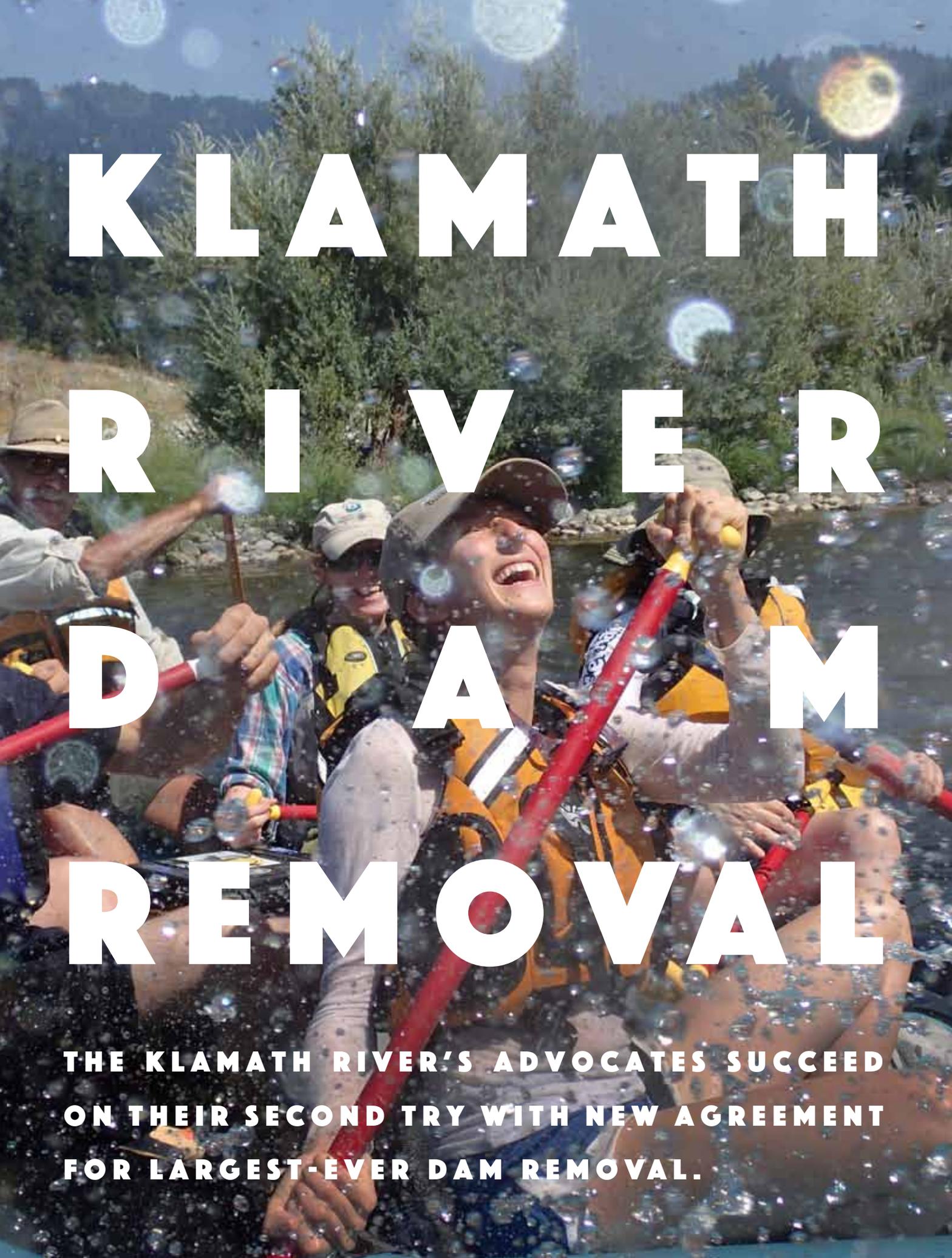
larger campaign to help the people of Ladakh understand the connection between their waterways and their health.

“The training exercises extended over five days,” Sharon Khan said, “during which we trained Himalayan Glacier Waterkeeper and its 20 affiliates, along with the Drukpa monks and nuns and students at the Druk Padma Karpo School.” They trained the teams on the use of water-quality monitoring equipment from YSI and EarthEcho. “By the end of our tour,” Khan said, “we had driven over 500 kilometers through some of the world’s most spectacular mountainous terrain to test water quality at 10 sites northwest and southeast of Leh.” They found the water quality of glacial streams to be generally good – slightly alkaline, but having low conductivity, high clarity, no excessive nutrients and dissolved oxygen at levels supportive of aquatic life. For the larger river systems of the Indus and the Zaskar Rivers, the main difference was low clarity and highly turbid water resulting from excessive suspended sediments.

With their new tools, Himalayan Glacier Waterkeeper’s community is able to establish and monitor baseline physical and chemical water quality of their local waterways and advocate for the protection of clean water. Continuing testing will help to establish baseline characteristics of these waterways and allow Waterkeepers to assess and address any harm caused by pollution or climate change.

In mid-September Sharon Khan returned to Ladakh with Waterkeeper Alliance President Robert F. Kennedy, Jr., and Executive Director Marc Yaggi to join in the celebration of the 1000th anniversary of the birth of Naropa, the sainted founder of the Drukpa lineage. Before hundreds of thousands of people, they expressed the urgency of protecting Himalayan glaciers and rivers – which are the sources of water for at least half the world’s population – from pollution and climate change.

WITH THEIR NEW TOOLS, HIMALAYAN GLACIER WATERKEEPER’S COMMUNITY IS ABLE TO ESTABLISH AND MONITOR BASELINE PHYSICAL AND CHEMICAL WATER QUALITY OF THEIR LOCAL WATERWAYS AND ADVOCATE FOR THE PROTECTION OF CLEAN WATER.

A group of people are white-water rafting on a river. They are wearing life jackets and caps, and are splashing water. The scene is outdoors with trees and hills in the background. The text is overlaid on the image.

KLAMATH RIVER DAM REMOVAL

**THE KLAMATH RIVER'S ADVOCATES SUCCEEDED
ON THEIR SECOND TRY WITH NEW AGREEMENT
FOR LARGEST-EVER DAM REMOVAL.**



BY KONRAD FISHER, KLAMATH RIVERKEEPER

The largest dam-removal and salmon-restoration proposal in history now appears close to being realized thanks to a historic agreement reached in April 2016 between tribal, state and federal governments, the owner of the dams, and conservation and fishing organizations.

The agreement calls for removal of four dams by 2020 along the Klamath River, which begins in the high desert of southern Oregon and flows more than 250 miles to the northern California coast. The river would recover hundreds of miles of historic salmon habitat, and reservoirs behind the dams, which produce some of the highest concentrations of toxic algae ever recorded, would become free flowing river.

“For tribal members, this equates to food-security, health, and cultural survival,” said Leaf Hillman, director of the Karuk Tribe’s Department of Natural Resources.

This new agreement is particularly gratifying because an agreement that had been reached in 2010 – a more comprehensive one, in fact, including plans for dam-removal and large-scale restoration, plus a water-allocation settlement between fisheries and agricultural interests – expired in 2015 when Congress failed to pass implementing legislation. The 2010 “Klamath Agreements” were signed by more than 40 diverse stakeholders after a decade of protests, litigation and negotiation, and would have resolved century-old conflicts. Unfortunately, ideological opposition to dam removal by a few members of Congress triumphed over the economic interests of water users, and even the private property rights of the dams’ owner, PacifiCorp.

During the early days of 2016, however, PacifiCorp indicated that it would support dam-removal independent of the water settlement and restoration projects that were part of the 2010 Klamath Agreements, thus negating the need for new federal legislation. For three months, PacifiCorp staff participated in intense negotiations with stakeholders, including Klamath Riverkeeper.

In April of 2016, PacifiCorp representatives joined leaders of the Yurok and Karuk Tribes, the U.S. Secretary of the Interior, the governors of California and Oregon, and other stakeholders to sign a new agreement for dam removal by 2020. The agreement relies upon existing legal authorities and obligations of the Federal Energy Regulatory Commission (FERC) rather than new legislation. Stakeholders who supported the 2010 Klamath Agreements plan to negotiate a water-allocation settlement and seek restoration funds independently of the new dam-removal agreement.

HOW WE GOT HERE: FISH-KILL, TOXIC ALGAE, PROTESTS, LITIGATION AND NEGOTIATION

The movement to un-dam the Klamath River coalesced in 2002 when more than 60,000 salmon died after the Bush Administration limited water-releases for fish in favor of agricultural water deliveries. *The Washington Post* later reported that Vice-President Dick Cheney had silenced federal scientists who warned that inadequate river-flows would kill large numbers of salmon.

OPPOSITE PAGE, KLAMATH RIVER ACTIVISTS CELEBRATE THE PROSPECT OF A FREE-FLOWING RIVER DEVOID OF DAMS. LEFT, THE KLAMATH AGREEMENTS WERE SIGNED BY MORE THAN 40 STAKEHOLDERS, INCLUDING CALIFORNIA GOVERNOR ARNOLD SCHWARTZENEGGER, IN 2010 BUT EXPIRED IN 2015 BECAUSE OF THE IDEOLOGICAL OPPOSITION OF A FEW MEMBERS OF CONGRESS.

PHOTOS BY KLAMATH RIVERKEEPER



SINCE THE OWNER OF THE FOUR KLAMATH DAMS, PACIFICORP, WAS A SUBSIDIARY OF BERKSHIRE HATHAWAY, TRIBAL MEMBERS (ABOVE) TRAVELED TO OMAHA, NEBRASKA, TO DELIVER THEIR MESSAGE TO BERKSHIRE HATHAWAY'S LARGEST SHAREHOLDER, WARREN BUFFET. OPPOSITE PAGE, THE SIGNING OF THE AMENDED KLAMATH HYDROELECTRIC SETTLEMENT AGREEMENT IN 2016 TOOK PLACE AT THE MOUTH OF THE KLAMATH RIVER.

Klamath Basin tribal members who were devastated by the 2002 fish-kill proceeded to lead a historic movement, joined by conservation groups and fishing interests, calling for dam-removal and improved water-management. Tribal members, along with Klamath Riverkeeper's founders, led several large rallies before PacifiCorp's offices in Portland, where they displayed toxic algae generated in the reservoirs behind the dams.

Tribal members and allies also held rallies in Scotland, where PacifiCorp's parent company, Scottish Power, was holding a shareholders' meeting. Scottish Power responded by selling PacifiCorp to MidAmerican Energy Company, a subsidiary of Berkshire Hathaway. Tribal members then traveled to Omaha, Nebraska to deliver their message directly to Berkshire Hathaway's largest shareholder, Warren Buffett.

While the protests moved public opinion in favor of dam removal, successful legal action ensured that the dams were not relicensed without compliance with key laws. In 2006, the U.S. Fish & Wildlife Service and NOAA Fisheries mandated fish passage for salmon as a condition of dam relicensing by FERC. PacifiCorp challenged this condition in court, but tribes and environmental and fishing groups intervened and successfully upheld the fish-passage requirement.

Meanwhile, scientists with the Karuk and Yurok Tribes collected extensive data showing that the reservoirs created by the dams generated some of the highest concentrations of toxic algae ever recorded. Armed with this information, Klamath Riverkeeper and co-plaintiffs settled litigation in

"WE MUST ACCEPT THAT A CERTAIN NUMBER OF FACT-RESISTANT ELECTED OFFICIALS WILL BASE THEIR OPINIONS ON IDEOLOGY RATHER THAN A PREPONDERANCE OF HARD SCIENTIFIC EVIDENCE."

2008 which compelled the U.S. EPA to regulate toxic algae on the river. This led to the establishment of water-quality standards for toxic algae that had to be satisfied as another condition of dam relicensing.

Considering the high cost of fish passage, and lacking a viable path to meet water-quality standards, PacifiCorp acknowledged that dam-removal could be more cost-effective than dam relicensing.

The Klamath Agreements that were signed in 2010 after years of arduous negotiations included the Klamath Basin Restoration Agreement, which stipulated a water-allocation settlement and multiple habitat restoration projects, and the original Klamath Hydroelectric Settlement Agreement (KHSA) for dam removal. The 2016 dam-removal agreement is an amended version of the KHSA. In 2013, the Klamath Tribes of Oregon negotiated a separate water-sharing agreement with agricultural irrigators called the Upper Klamath Basin Comprehensive Agreement.

As written, these three agreements were interdependent and contingent upon federal legislation that would have provided irrigators with regulatory assurances and subsidies for water pumping, while establishing caps for surface-water deliveries and triggers for groundwater pumping curtailment. Legislation also would have funded hundreds of millions of dollars worth of habitat and water-quality restoration and ensured that the dams were removed by 2020.

Senators Wyden and Merkley of Oregon and Senators Boxer and Feinstein of California were quick to support the necessary legislation. However, despite significant benefits for agricultural interests, Congressman



PHOTO BY MATT MAISI / YUPOK TRIBE

called the Klamath River Renewal Corporation (KRRRC) was formed to oversee dam-removal. In September 2016, the KRRRC and PacifiCorp submitted a joint application to FERC to transfer the dam-operation license to the KRRRC. At the same time, the KRRRC submitted a dam operation “surrender application” to FERC, which must be approved for dam-removal to occur.

Former U.S. Secretary of the Interior Sally Jewel urged FERC in an October 2016 letter “to approve these applications as a critical step toward resolving the significant water-related issues in the Klamath Basin.” Her letter explained that “the River and the fishery it supports are at the core of the cultural, spiritual, and economic well-being of six federally recognized Indian tribes.”

While support for dam-removal is stronger than ever, some elected officials continue to oppose it. Despite ample peer-reviewed evidence to the contrary, Congressman LaMalfa and supervisors in Siskiyou County, where three of the dams are located, continue to mislead their constituents by asserting that dam-removal will harm water quality and salmon populations, and burden electricity ratepayers and downriver property owners.

“We must accept that a certain number of fact-resistant elected officials will base their opinions on ideology rather than a preponderance of hard scientific evidence,” said Craig Tucker, natural-resources-policy advocate for the Karuk Tribe. “At the same time, we will continue to correct misinformation so stakeholders and the general public can make informed decisions.”

Communities that depend on a healthy Klamath River for food, jobs, recreation and cultural survival have accomplished what once seemed impossible to most outside observers. With continued dedication, the world will witness the largest dam-removal and-salmon restoration project in history by 2020. **W**

Greg Walden of Oregon refused to support the legislation, while Congressman Doug LaMalfa of California actively opposed it. Their intransigence caused the 2010 Klamath Agreements to expire in 2015.

PacifiCorp supported a new dam-removal agreement in 2016, the amended KHSA, due to the high cost of dam relicensing relative to removal, and the availability of funds for dam-removal. To this day, an electricity ratepayer surcharge is accumulating funds that will provide \$200 million for dam removal. The California and Oregon Public Utilities Commissions approved this surcharge to protect ratepayers from a higher surcharge that would have resulted from bringing the dams into compliance with water-quality and fish-passage requirements. California voters also approved a water bond in 2014 that included up to \$250 million that can be used for dam-removal.

IMPLEMENTING THE NEW DEAL

The new agreement contains detailed procedures to achieve dam removal by 2020. A non-profit “dam removal entity”

IMPACTS OF DAM REMOVAL

PROS:

- Reopens 420 miles of historic salmonid habitat and increases Chinook salmon populations by at least 80 percent.
- Allows salmon to reach the Klamath Tribes of Oregon for the first time since dam-construction.
- Improves commercial fishery along more than 700 miles of California and Oregon coastline, where Klamath River salmon migrate.
- Protects endangered southern resident Pacific orcas (killer whales), which depend on Chinook salmon for the majority of their diet.
- Restored fisheries will improve access to healthy traditional food-sources for Klamath Basin tribal members.
- Eliminates stagnant reservoirs that generate some of the highest concentrations of toxic algae ever recorded.
- Creates thousands of jobs from dam-removal itself, commercial fishing, and restoration of the tourism and recreational fishing industries.
- Minimizes electricity-rates because ratepayers would not incur the cost of dam removal which is less than the cost of dam relicensing.
- Reduces emission of methane, a potent greenhouse gas, from reservoirs.
- Net impacts on property values have been difficult to quantify due to lack of comparison data. Property values downriver from the dams will likely increase due to improved water quality, fisheries, and tourism. Impacts on property values on the reservoirs are unknown due to lack of applicable data – namely data about change in property values where reservoirs filled with dangerous concentrations of toxic algae are replaced with free flowing river with salmon and steelhead.

CONS:

- Temporary release of sediments into the river as reservoirs are drained.
- Eliminates a fraction of PacifiCorp’s electricity-production, which can easily be replaced with new renewable electricity production capacity.

SUNNY SKIES, TROUBLED WATERS

PHOTOS AND TEXT
BY LYNNE BUCHANAN

WATERKEEPERS
CONTEND WITH
THE HUMAN IMPACT
ON FLORIDA'S
AQUATIC SYSTEMS.

Florida's waterways are treasures that are being irreparably damaged by the impacts of climate-change, agricultural pollution, increasing population, urban growth and land-development. As population expands, estuaries and waterways are being depleted by diversion of water from aquifers. More lawns, roadways and water-drainage pipes degrade water-quality. At the same time, sea-level rise and increasingly severe storms threaten the quality of freshwater rivers, lakes, coastline, riparian landscapes and native species.

Lynne Buchanan has spent the past three years working in Florida with Waterkeepers, springs experts, environmental scientists and indigenous people to document what is happening and raise a call to action to preserve these resources that are essential to our survival and cherished for their natural beauty. This photo essay features eight of the Waterkeepers she has worked with and highlights the most important issues in each of their watersheds

Lynne Buchanan is a fine art and environmental photographer. She is currently working on a book about water issues in Florida, to be published soon.



JOHN PAUL

PRESIDENT OF CALOOSATCHEE
CITIZENS RIVER ASSOCIATION,
A WATERKEEPER ALLIANCE AFFILIATE

The Caloosahatchee River in southwest Florida receives overflows of agricultural runoff from Lake Okeechobee, and during the past year algae associated with these discharges extended into the Gulf of Mexico as far as Sanibel Island to the north and into Naples Bay and all the way to the Keys in the south. The river also suffers from runoff caused by overdevelopment, orange-groves, cattle-grazing and other farming operations. South Florida's orange crop has declined up to 70 percent due to citrus greening disease, which John Paul, president of Caloosahatchee Citizens River Association (CCRA), a Waterkeeper Alliance affiliate, believes is associated with drought, climate-change and overuse caused by development in the area. The water table all over Florida is dropping, which is making trees more susceptible to bacteria and other stressors. In an attempt to reduce runoff and improve the health of his groves, Paul introduced underground irrigation, which directly targets roots and allows him to control exactly how much water enters the soil – as opposed to surface-watering, whereby ditches collect excess amounts of fertilizers and other nutrients. Underground irrigation has made it possible for him to reduce water-consumption by 40 percent and eliminate drainage ditches. Trees also have become healthier, which reduces his need for pesticides.

CCRA monitors water quality throughout the region and studies the effects of domestic, commercial and agricultural uses. They work to increase public awareness of issues facing the river, so that impacts on riparian and estuarine systems, wildlife habitat and marine life can be mitigated.

Opposite page top, Decomposing vegetation along the Caloosahatchee River resulting from algae blooms caused by agricultural discharges from Lake Okeechobee. Right, a section of canal off the Caloosahatchee River is rendered impassable due to invasive vegetation caused by agricultural discharges from Lake Okeechobee and runoff from over-development and other sources.





JUSTIN BLOOM

SUNCOAST WATERKEEPER

Environmental attorney Justin Bloom heads Suncoast Waterkeeper, which oversees Sarasota, lower Tampa and Terra Ceia Bays and Manatee River in west-central Florida, all of which have been adversely affected by phosphates. Working with him to protect these waterways are Charles Kovach, Suncoast Waterkeeper, chief scientist and advisor to several other environmental organizations, and Andy Mele, former executive director of a major Hudson River environmental group.

An important issue for the Waterkeeper arose in September when a 45-foot-wide sinkhole under a gypsum stack at the Mosaic phosphate plant in Mulberry caused water containing low-level radiation and other pollutants to pour into the aquifer, potentially poisoning the drinking-water in the area. Phosphates also make their way into the bays and river through runoff, frequently causing algae blooms in areas where the water is more stagnant.

Suncoast Waterkeeper is involved in litigation regarding violations of the Clean Water Act from stormwater and sewage pollution, which has been particularly acute in the city of St. Petersburg. The Waterkeeper and several other environmental groups have also filed lawsuits regarding coal-ash pollution and its impact on endangered species. Coal-ash pits at Tampa Electric's Big Bend Power Station cause arsenic, lead and other toxic substances to leach into the watershed.

Another area of concern is the effect of residential and commercial development and the need to hold developers to the highest standards of environmental protection, particularly in regard to mangroves and sea-grasses. Sea-level rise and loss of sand are another constant threat to the area, and Suncoast Waterkeeper is calling for a comprehensive review to identify sources for sand-replacement and alternative strategies for shoreline protection.

Opposite page top, a drainage canal alongside a decommissioned phosphate plant in Port Manatee. Left, a close up of algae and impaired water quality from phosphate runoff. Right, restored wetlands in Terra Ceia Bay continue to be plagued by algae blooms from excessive nutrient runoff.





LISA RINAMAN

ST. JOHNS RIVERKEEPER

The 310-mile St. Johns River in east-central Florida is the longest in the state, and 3.6 million people live in its watershed. The drainage basin is 8,840 square miles, and its estuary is 2,777 square miles, which is also the largest in Florida. There are 85 springs on the river, which account for approximately 30 percent of its water. According to St. Johns Riverkeeper Lisa Rinaman, the biggest threat facing her river is excess water-usage. Agriculture and other industries are continually increasing the amount of water they draw from the river. And as sea level rises (the St. Johns flows into the Atlantic Ocean), the percentage of saltwater in the river increases and wetlands are lost. Estuaries are also harmed when the mix of saltwater and freshwater becomes too salty.

St. Johns Riverkeeper is involved in frequent litigation to protect the springs and the fresh water they produce, and it is opposing toxic discharges from the St. Johns River Power Park in Jacksonville and the Seminole Electric Plant upstream. Another problem it is taking on is dredging to accommodate big ships that use the port in Jacksonville, an activity that erodes the riverbanks and causes docks to crumble. The St. Johns and its tributaries are also confronting pollution from heavy metals, including mercury, and the presence of excess nutrients and algae blooms, some of which are toxic. Lots of human and animal waste also empties into the river from the most heavily populated areas it flows through.

As a result of the efforts of Rinaman and her organization, the river is no longer listed among the ten most endangered in North America. But it still faces many challenges. St. Johns Riverkeeper is committed to monitoring, addressing and resolving the following issues: nutrients, bacteria, water-withdrawals, sedimentation, loss and degradation of habitats, pollutants, public access, proposed dredging, wetland impacts and loss of riparian zones.

Above, the coal-fired Northside Generating Station on the St. John's River in Jacksonville, with coal chutes in the foreground.





LAURIE MURPHY

EMERALD COASTKEEPER

The Florida Panhandle could not be in better hands than those of Laurie Murphy (right), who holds a B.S. in Oceanography and a master's certification in geographical information science. Murphy oversees all four watersheds in the Panhandle, including Pensacola Bay, and she confronts a wide range of common issues throughout these watersheds: septic-system failure, erosion and sedimentation, nutrient-loading from fertilizers, red tide, and leaching of heavy metals, polycyclic aromatic hydrocarbons, and polychlorinated biphenyls (PCBs). And then there are the problems of animal-waste, industrial-paint-plant discharge, oil-spills, commercial-vessel pollution, residential development, and household garbage. One of the biggest issues she is dealing with is the Gulf Power Company's Crist Plant at Pensacola, where coal ash from unlined pits is migrating into the water. Another major problem is an

outdated water-treatment plant in Pensacola Beach that is pumping toxins into Pensacola Bay. There are also seven super fund sites in her area, including an old creosote plant and the Pensacola Navy Compound. Residues of jet-fuel and chemicals, including arsenic, mercury and other heavy metals are still present in the water from these sites, and Murphy is working with the Florida Department of Environmental Protection to monitor toxicity.

Another concern is dredging, which replaces sand lost from sea-level rise. In addition, many tar-balls remain buried in the Gulf sand from the BP oil-spill, and a hurricane could bring these back to the surface. And she is also in the midst of legal battles to improve water quality throughout her area – which have her considering enrolling in law school to acquire even more tools in her fight for her waterways.

A rainbow over Gulf Islands National Seashore, Pensacola.





RACHEL SILVERSTEIN

MIAMI WATERKEEPER

Rachel Silverstein became executive director of Miami Waterkeeper in June 2014, two years after earning a Ph.D. from the Department of Marine Biology and Fisheries at the University of Miami's Rosenstiel School for Marine and Atmospheric Science.

One of the most serious issues she has been contending with is massive dredging for the expansion of PortMiami. After mediation sessions led to a settlement agreement, Miami Waterkeeper was able to secure improved protections for marine life by expanding the scope of coral-relocation projects, expanding monitoring requirements, limiting blasting during spawning- and feeding-times for protected species, and obtaining \$1.31 million for the Biscayne Bay Trust Fund, which will fund much-needed bay-restoration and enhancement projects. Another constant concern is sea-level rise, which has already caused the flooding of sewage-treatment plants and saltwater intrusion into inland wells. Stormwater-drains have become ineffective and frequently back up during full moons, heavy rains and storms. Costly pumps have been installed throughout the area to return water to the bay, but untreated runoff is causing further degradation to the bay.

Silverstein is also focused on the Turkey Point Nuclear Power Plant, which was literally carved out of the Biscayne Bay shoreline. The site includes a network of exposed, unlined cooling-canals that are creating a saline plume that is spreading out into the bay and heading toward the Florida Keys. Now construction of two more power plants is being planned, unrealistically allowing for only one foot of sea-level rise in the next 50 years.

Opposite page top, the Turkey Point Nuclear Generating Station beside Biscayne Bay National Park. Right, the mostly barren sea bottom of Turkey Point's discharge canal.





MARTY BAUM

INDIAN RIVERKEEPER

Marty Baum, the Indian Riverkeeper, faces daily one of the greatest challenges in Florida's waterways – polluted nutrient discharges from Lake Okeechobee. Last summer these caused unprecedented cyanobacteria blooms that made national headlines. Baum was able to follow a 23-mile cyanobacteria bloom on canal C-44, which links Lake Okeechobee with the St. Lucie River, which empties into the Indian River Lagoon. Not only is it unsafe to touch water containing cyanobacteria; it is also health-threatening to breathe near it.

The Indian River Lagoon was once one of the most biodiverse of all bodies of water in North America. Now, the infusion of nitrogen and phosphorous from Big Agriculture entering the lagoon in tainted stormwater and agricultural runoff as well as discharges is drastically reducing its number of life-forms. Cyanobacteria, brown algae blooms, and high levels of other bacteria have led to the destruction of sea-grass beds as well as extensive fish kills. The poor water quality of the Indian River Lagoon is causing health issues for marine life throughout the watershed, including manatees and pelicans. Discharges from the Jensen Beach Power Plant are also implicated in the loss of sea-grass and the disruption of the manatees' migration pattern.

As a fifth-generation Floridian who remembers the lagoon when it was pristine and thriving with life, Marty Baum is both saddened and angered by its current condition, but also committed to leading the fight to see it restored.

Opposite page right, Canal C-44 filled with agricultural discharges that ultimately drain into the Indian River Lagoon.



NEIL ARMINGEON,

MATANZAS RIVERKEEPER

Neil Armingeon, formerly the St. Johns Riverkeeper, became the Matanzas Riverkeeper in 2013. So his combined experience has familiarized him with virtually all the issues facing Florida's waterways. The Matanzas, which flows south from St. Augustine in the northeast, is a unique river system in the state. Only 23 miles long, with a watershed of 980 square miles in just two counties, an area in which there is no industry and only one urbanized locality, the Matanzas has been called the "Last Best River in Florida." The biggest issue Armingeon is contending with is sea-level rise, as was evident in the massive flooding caused by Hurricane Matthew, which extensively damaged the Matanzas Riverkeeper headquarters. The City of St. Augustine has already elevated parts of its seawall about two feet, but flooding still occurs, even during minor storms. As a result, the intrusion of saltwater into the area's freshwater wells has increased markedly.

Armingeon's attention is also focused on development that could negatively affect the river, which, along with Pellicer Creek, has been designated an "outstanding water and aquatic reserve." In September 2015, Matanzas Riverkeeper was able to defeat a proposal to build 999 homes on 772 acres, which would have had significant negative effects on these irreplaceable waterways.

Other problems that Armingeon is dealing with include wastewater-treatment plants, both existing ones and others associated with new development, and seismic testing for oil under the Atlantic Ocean, which was at first approved by the Obama administration but, because of widespread opposition, later withdrawn. **W**

Opposite page right, St. Augustine Bay, where the seawall has already been raised several feet but still floods badly because of sea-level rise.



You Pollute, And Then You Sue?

Standing up to
polluters can be a risky
business.

by

Frederick Tutman,
Patuxent Riverkeeper

“

Did
you
know
you are
being
sued
?

”

I could hardly believe my ears when one of our members told me she had found mention of a lawsuit filed against Patuxent Riverkeeper while doing research on a local judiciary website. I assumed it was a mistake; our organization is sometimes party to various anti-pollution lawsuits and enforcement actions, but generally we are plaintiffs—not defendants! Yet when I looked it up online,

there it was: a local restaurant and tiki bar on the river, Vera's White Sands Beach Club, had filed a lawsuit naming Patuxent Riverkeeper and me personally.

I was amazed at the claims: defamation, injurious falsehood and invasion of privacy. Vera's was seeking hundreds of thousands of dollars for alleged financial losses resulting from a report I had written to the State of Maryland,

and their claim that I influenced their state senator, a past member of Patuxent Riverkeeper, not to intervene on their behalf to scuttle fines imposed by the Maryland Department of the Environment. This was a “SLAPP” suit – a “strategic lawsuit against public participation” – litigation intended to force us to shift away from investigating and reporting pollution to defending ourselves against civil damages. Its purpose was to make us shut up and go away.

My first concern really wasn't about liability, because the case was ridiculous. I worried primarily about its implications for our work on the river. We wouldn't be able to continue our critically important grassroots advocacy in the Patuxent watershed, which drains to Chesapeake Bay, if members or complainants feared being sued for reporting pollution to us or to the government. My second concern was for our insurance rating. We already pay too much for various types of insurance. Would this case drive up our rates? Would it cause our insurer to drop us, and would we be unable to find another insurance company? I had a vision of my board members quitting en masse, fearful they could become liable whenever we challenged a polluter. Perhaps our no-nonsense work would become cautious, even timid. These prospects were maddening.

Vera's White Sands is a popular tropically inspired, rather eccentric

destination, in its heyday a favored haunt for Hollywood luminaries like Robert Mitchum, Frank Sinatra and Arte Johnson. It was once decorated in leopard-print and with *objets d'art* collected by Vera, the original proprietress, during her world-travels. She was such a well-known local character that she would sit at the bar draped in sequins and sign autographs. In later years it held outdoor rock-concerts and bikini contests and accommodated motor-boaters who would stop there for meals and cocktails. Nearby residents had many concerns that did not concern water quality, including heavy traffic, noise, public drunkenness and other disturbances.

Before we were sued, I met with neighbors, made a list of their concerns, and reviewed county and state enforcement files, where I found ongoing governmental legal actions against this business for a wide variety of issues, including operating an unpermitted swimming-beach, waterfront-buffer and sewage violations, an inadequately maintained underground storage tank, and many other problems. I learned the State of Maryland was seeking up to \$300,000 in fines from Vera's, which later had been reduced in a consent decree to \$50,000. When I spoke to county zoning officials and the local health department, I was told repeatedly by inspectors that the owner was aggressive, difficult to deal with and to enforce regulations against. I then

visited the restaurant, met the manager, introduced myself, and told her I was there to assess neighbors' concerns. She conducted me on a tour of the premises, during which I detected several questionable issues – landscaping that could cause sediment to wash into the river, ground-disturbance and excavation beside the river unmitigated by stormwater-management controls, and new construction that appeared impermissible. I saw a maze of pipes and outfalls that seemed to be untreated or unfiltered. The manager proudly informed me that most of the work had been done in-house by the owners.

During the discovery phase of the subsequent litigation, an owner claimed that I had requested a tour of his property under the false pretense of intending to hold a fundraiser there. Afterward, in a raging phone call, he insulted me in foul terms, accused me of trespassing, threatened me with legal action, and demanded to know which neighbors of his had complained to us. When, naturally, I declined to reveal names, he became more gentle and conciliatory, and suggested that he might donate to our organization and even host fundraisers. Then he declared, “I run a great business, but I have lousy neighbors.”

That comment only further confirmed my resolve to support these neighbors' battle against an aggressive business owner who clearly prized his profits above their well-being and that of the river. So I wrote a letter to the Maryland Department of the Environment recounting the experiences above, describing the owner's aggressive demeanor and expressing my opinion that only vigorous and determined efforts would bring facts to light and force compliance with the law. I encouraged the state prosecutor who was pursuing the enforcement action to talk to the neighbors to learn more.

This letter would be the only evidence produced by the plaintiffs to claim that I had “defamed” them.

This was
a “SLAPP”
suit-

a
“Strategic
Lawsuit
Against
Public
Participation”

In need of a strong defense in a troublesome lawsuit, I contacted several local attorneys and legal organizations, including two local law clinics, with whom we had worked in the past. Astonished as I was by the absurdity of the case, all were willing to defend us for free. Ultimately our insurance company assigned the job to an excellent law firm in Virginia, Bancroft, McGavin, Horvath and Judkins, who were frustrated in their initial attempts to get the case dismissed. Early on it became apparent that the other side was mainly interested in forcing me to reveal the names of neighbors or other citizens who had complained to Patuxent Riverkeeper. We had referred to them in court records as citizens A, B, C, etc.

State and county employees, Vera's staff and I were all deposed, and eventually we again filed motions for dismissal, based on what we had learned through our research. After eighteen months of wrangling, the court finally dismissed the case, upholding every one of our legal arguments.

We learned several lessons, which we hope will help others in their advocacy:

First, don't panic. Advocates have been sued before and will be again. We fight rich and powerful opponents who often use their money to get what they want. One of the things that distinguish Waterkeepers from other environmental movements is our resolve to weather these storms. Most of us know full well that our legal system is often defective. But we should know too that the wheels of justice grind slowly. So take a breath and time to develop a plan.

There is a strong movement afoot in many states to deter and restrict SLAPP suits that aim to undermine free speech. The court in our case recognized the owner's attempt to suppress public knowledge of his violations, and our right to communicate with our government. That was the essence of the case. Generally, if you stick to the facts, your right to free speech will protect you.

Do your homework. We did not jump



FRED TUTMAN FOUNDED PATUXENT RIVERKEEPER IN 2004. HE WAS RAISED ALONG THE PATUXENT RIVER, AS WERE SEVEN GENERATIONS OF HIS ANCESTORS. HE IS AN ADJUNCT PROFESSOR AT HISTORIC ST. MARY'S COLLEGE OF MARYLAND, WHERE HE TEACHES AN UPPER LEVEL COURSE IN ENVIRONMENTAL LAW AND POLICY. HE IS AN AVID KAYACKER AND BACKPACKER AND ALSO HELPS MAINTAIN TRAILS ON THE APPALACHIAN TRAIL.

to conclusions, and our thoroughness helped our defense. Although we could not directly corroborate all of the citizens' concerns, we provided enough information to warrant the state's investigation and concern about Vera's environmental compliance.

Stand your ground. I learned that not everybody plays fair. Some people, like Vera's owners, just want to win or have things their way. I feel Patuxent Riverkeeper was correct to call them out and I am proud that we stood up to them and declined to name names. Our movement is either tough on pollution or we are not credible.

Get competent legal advice. I am deeply grateful to all the lawyers and advisors who came to our aid when we were in jeopardy. It seems that an attack on free speech is everybody's fight. I cannot thank enough Bancroft, McGavin, Horvath and Judkins – many of whose members, by the way, are lovers of fresh-water fly-fishing. The emotional value of having true warriors on your side is no small matter.

If the government is actually doing its job well, back it up. While I have

often taken issue with how governments do their job of enforcing environmental laws, I cannot fault the Maryland State prosecutors in the Vera's case. They had levied fines and filed administrative complaints against Vera's long before Patuxent Riverkeeper got involved. Once I found the state and county were already prosecuting Vera's, I stopped our Riverkeeper investigation and instead wrote to the state asking them to engage the support and testimony of citizens, as I was concerned the scope of the state's case did not capture all of the overlapping issues raised by the neighbors I had interviewed. Also, in the end, the state provided us with an affidavit that helped us win our case.

Don't let them see you sweat. If you let polluters bully you, you'll never stop them. The opposition tried to bait me, discredit me, and attack my motives while I was under oath. But we gave back more than we took. Stick to your guns and stand tall. Follow the law and tell the truth, which hopefully will prevail.

Never break faith with those you serve. It occurred to me, after being threatened by the other side's lawyer that the court might try to compel me to give up the names of the complainants. Throughout the litigation I considered how Waterkeepers, who accept complaints from citizens almost daily, could be exposed to liability for reporting it. Our lawyers in this case successfully pursued a theory of "absolute privilege," which states that the public interest of our mission and our work conveys a certain immunity from prosecution for defamation when we merely report pollution to the government. And the court agreed that this privilege applies not just to Waterkeepers but also to all citizens.

With the lawsuit behind us, we got back to the daily work of defending our suffering river and building a vigilant citizens' movement to protect it. Recently, I received calls from residents reporting that Vera's had drained a chlorine-laden swimming pool directly into the river. So the fight goes on. **W**



APALACHICOLA RIVERKEEPER DAN TONSMEIRE IS FIGHTING FOR
THE LIFE OF HIS RIVER, BUT IT'S THE U.S. SUPREME COURT
AND THE ARMY CORPS OF ENGINEERS WHO WILL DECIDE ITS FATE.

THE
APALACHICOLA

LAST HOPE FOR AMERICA'S
"MOST ENDANGERED RIVER"

BY LISA GARCIA

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Extrême drought, unprecedented low water-flows, unrestrained and unsustainable growth, endangered wildlife and a collapsing estuary.

Anyone dealing with these threats would most likely feel that he or she was caught in a nightmare. Add irresponsible government regulators and a last-hope U. S. Supreme Court case, and the horror deepens. But this isn't just a bad

dream for Apalachicola Riverkeeper Dan Tonsmeire and many of the residents around the Apalachicola-Chattahoochee-Flint (ACF) River Basin. It's a 27-year-long reality that reached a critical juncture in 2016 when the river-system was designated "America's Most Endangered River."

There is one last chance to turn things around. The U.S. Supreme Court took up the case of Florida

OPPOSITE PAGE DWARF CYPRESS IN AUTUMN ALONG THE APALACHICOLA RIVER.

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v. Georgia, a dispute over water-use in the ACF system, in 2013. A year later the court appointed a special master to the case: Maine attorney Ralph Lancaster Jr., who was charged with reviewing the court-filings, hearing trial testimony and proposing a ruling to the high court. In November and December of 2016, after two years, the rare state-versus-state trial was heard by Lancaster in the coastal New England town of Portland, Maine.

“What Florida is asking for is to cap Georgia’s water use at a level that allows the Apalachicola ecosystem to survive,” says Tonsmeire.

At the same time, the U.S. Army Corps of Engineers is completing the first update since 1958 of its water-control manual

that guides the management of water-flow in the Chattahoochee and ultimately, and most critically, at the confluence with the Flint and the Apalachicola. In early December of last year, the corps released their final environmental impact statement (EIS), which is required before changes can be made to the manual. “They gave Georgia everything they asked for,” Tonsmeire says. “The EIS made it clear that the corps intends to meet the future water-supply needs of metro Atlanta, while downstream users are left without even a fair investigation of needs. It seems premature to have this issued. Now the fate of the Apalachicola lies in the hands of the Supreme Court.”

For the last 13 years, Dan Tonsmeire

and his organization have provided a voice for those who yearn for equitable water-management and fear for the future of the Apalachicola River and Bay, as well as the fisheries of the eastern Gulf of Mexico. And he doesn’t intend to stop now.

“We’re at a major turning-point this year because this is our last chance to have a meaningful recovery” says Tonsmeire. “These two, almost concurrent, actions by the Supreme Court and Army Corps will determine our fate.”

AN OYSTER AND A WAY OF LIFE IN PERIL

The Chattahoochee and Flint rivers merge at the Florida-Georgia border to become



PHOTO BY SHANNON LEASE

AN APALACHICOLA SHRIMPERS AT SUNSET. ALTHOUGH THERE ARE NOT AS MANY SHRIMPERS AS IN THE PAST, APALACHICOLA IS STILL A WORKING WATERFRONT COMMUNITY WHOSE SEAFOOD AND TOURISM INDUSTRIES DEPEND ON THE HEALTH AND PRODUCTIVITY OF THE APALACHICOLA RIVER AND BAY.

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THE EIS MADE IT CLEAR THAT THE CORPS INTENDS TO MEET THE FUTURE WATER-SUPPLY NEEDS OF METRO ATLANTA, WHILE DOWNSTREAM USERS ARE LEFT WITHOUT EVEN A FAIR INVESTIGATION OF NEEDS.

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the Apalachicola, which flows through the center of the Florida Panhandle into Apalachicola Bay, forming one of the most ecologically diverse rivers and estuaries left in the northern hemisphere. Here the river's fresh water mixes with salt water from the Gulf of Mexico to create the perfect environment to nurture the world-famous Apalachicola oyster, much prized by food critics, including those at *The New York Times*. And it's not just oysters that thrive in this seafood nursery; 90 percent of the commercially harvested species in the northeastern Gulf depend on the

freshwater flows and habitats of this marine estuary.

For decades the seafood industry, and particularly the iconic Apalachicola oysters, have been an economic mainstay for the surrounding region and most directly the town of Apalachicola, a charming fishing village with about 2,000 residents, many of them third-, fourth- and fifth-generation oystermen, fishermen, and seafood-purveyors. In a good year, the Apalachicola system supports over 54,000 jobs and more than \$5.6 billion in sales revenue across west Florida and the eastern Gulf of Mexico.

But the decades-long battle between Florida, Georgia and Alabama over Georgia's unfettered use of upstream water, combined with the water-management policies of the U.S. Army Corps of Engineers and political gridlock in Congress, orchestrated by the Georgia delegation, have created the possibility of environmental and economic devastation.

In fact, during a drought in 2012 the oyster population in Apalachicola Bay so declined in productivity from the lack of fresh water flow that the region was officially declared a federal

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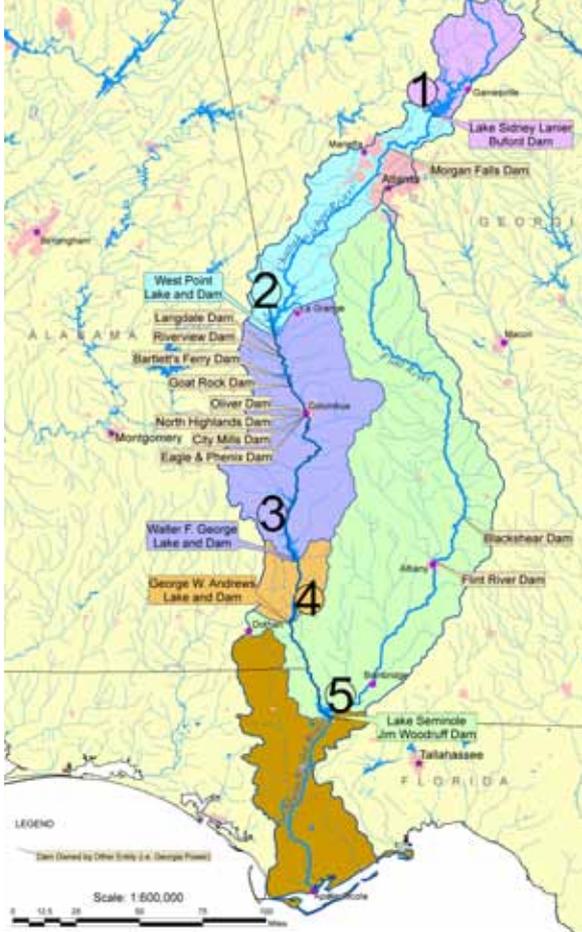
fishery disaster due to a "collapse," a condition severe enough to threaten the demise of this fishery.

FLORIDA V. GEORGIA

For more than 25 years, the states of Florida, Alabama and Georgia have been entangled in a legal battle over water consumption and management of the ACF system. (Alabama declined to participate in the lawsuit and is pursuing other options to get their fair share of water from the Chattahoochee, but wrote a letter supporting Florida's claims.) Florida and Alabama have accused Georgia of unfairly depleting upstream freshwater from the Chattahoochee to provide water for the burgeoning population of greater Atlanta, and an even larger volume from the Flint for agricultural irrigation in southwest Georgia. During droughts, up to 50 percent of the flow to the Apalachicola is being used up – flows critical to sustaining the fish and wildlife in the Apalachicola floodplain and bay and the eastern Gulf of Mexico. In 2013, at the direction of Governor Rick Scott, the State of Florida sued Georgia to bring about an equitable apportionment of the waters of the ACF Basin and an adequate flow of freshwater into the Apalachicola area.

Scott declared at that time "[the] lawsuit will be targeted toward one thing – fighting for the future of the Apalachicola," and described the suit as "a bold, historic legal action for our state" that "is our only way forward after 20 years of failed negotiations with Georgia."

While the court-appointed special master does not have the authority to issue a final ruling in the case, the U.S. Supreme Court has historically accepted a special master's recommendation – and even more likely when that master has been Lancaster, who has served in that role several times previously. In this instance he has repeatedly urged the 70-plus lawyers working on Florida v. Georgia to reach an agreement and end the acrimonious water



“OUR AREA WOULD BE THE FIRST TO BE DEVASTATED, BUT WATER-USERS UPSTREAM WOULD BE THE NEXT TO GO; THE DEVASTATION WILL FOLLOW, AND THE WATER WAR WILL INTENSIFY AS ALL THREE STATES BEGIN TO LOSE.”

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THE CHATTAHOOCHEE (FAR LEFT) AND FLINT RIVERS RUN ROUGHLY PARALLEL THROUGH GEORGIA BEFORE CONVERGING AT LAKE SEMINOLE TO FORM THE APALACHICOLA RIVER, WHICH EMPTIES INTO APALACHICOLA BAY.

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dispute, but a compromise benefitting both parties has not been reached. “At an early stage of the case,” Tonsmeire reports, “Lancaster granted both Florida and Georgia confidential mediation, which has deprived everyone else, including a concerned public, from being fully aware of what is going on.”

During a February 2016 conversation with the lawyers working on the case, the curmudgeonly Lancaster commented, “When this matter is concluded – and I hope I live long enough to see it happen – one and probably both of the parties will be unhappy with the court’s order. Both states will have spent millions and, perhaps, even billions of dollars to obtain a result which neither one wants.”

Similar confidentiality undermined a five-year effort by the ACF Stakeholders – a grass-roots organization of the Apalachicola, Chattahoochee and Flint Riverkeepers, scientists, utility managers and others from Atlanta to Apalachicola – which called for water flows to be equitably managed.

But upstream water supply-interests that were parties to the stakeholders’ collaboration refused to release the science behind the plan to avoid the implications it might

have on the litigation by demonstrating the potential impacts from upstream water use on the downstream ecosystem.

Tonsmeire believes the secrecy around the issue has prevented environmental-advocacy organizations from informing the public about the dire situation in the ACF Basin – and, more importantly, from scrutinizing political decisions.

“We don’t know what kind of negotiations are going on between the states or behind closed doors with the governors,” he says. “Of course we’re worried.”

This situation blocks Apalachicola Riverkeeper from pursuing its principal objective, which is to secure a sustainable management plan for the Apalachicola ecosystem and survival of the livelihoods that depend on it.

“This issue comes down to the lack of sustainability of current water-management practices,” says Tonsmeire. “The ACF Basin may be on the same path to drying up as the lower Colorado River and Delta. Our area would be the first to be devastated, but water-users upstream would be the next to go; the devastation will follow, and the water war will intensify as all three states begin to lose.”

A MANUAL FOR DISASTER

For years the Apalachicola River and Bay have endured a series of ups and downs at the hands of the U.S. Army Corps of Engineers. The corps regulates upstream Lake Lanier on the Chattahoochee River, which is slated to be Atlanta’s main source of water for the future. The corps has steadily increased the amount of water it stores for Georgia’s use in Lake Lanier, as well as

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PHOTO BY ISAAC LANG

THE APALACHICOLA DELTA IS WHERE THE FRESHWATER FROM THE RIVER AND THE SALTWATER FROM THE BAY MIX. "IF RIVER FLOWS ARE DEPLETED," SAYS DAN TONSMEIRE, "THE SURROUNDING MARSHES WILL BEGIN TO LOSE THEIR FRESHWATER VEGETATION DUE TO HIGHER SALINITY FROM THE BAY WATERS. AT THE SAME TIME, BECAUSE WE'LL CONTINUE TO GET THE HIGH FLOODS, THE SALTWATER PLANTS WON'T FILL IN AND THE RESULT WILL BE A MUD FLAT DEVOID OF VEGETATION, LIKE THE BARREN COLORADO RIVER DELTA."

the West Point and George Andrews reservoirs farther south. This has altered the quantity, timing, frequency and duration of freshwater flow downstream to the Apalachicola River Basin. In 2012, Apalachicola Bay experienced the inevitable disaster that results from unlimited upstream water-use, when its ecosystem collapsed, crippling the many downstream communities that thrived from commercial and recreational fishing. But, says Tonsmeire, the corps has not even officially recognized that event, and Georgia denies any responsibility.

That breaking point was reached when periods of natural drought were exacerbated by the limited water-flow and corps policies that held water back. While Georgia benefited from increased freshwater in its reservoirs and unfettered irrigation, producing an all-time high in agricultural production, the Apalachicola received unprecedented low flows barely adequate to sustain four species of endangered mussels and the endemic Gulf sturgeon. As the situation became increasingly dire, Florida

Governor Scott petitioned Congress on Sept. 6, 2012 to declare that a "commercial fishing resource disaster" had occurred in Apalachicola Bay with an emergency request for relief to the federal government.

"The State of Florida," he stated, "has experienced an unprecedented decline in the abundance of oysters within our coastal estuaries, a direct consequence of which has been a significant loss of income to commercial oyster fishermen, oyster processors and rural coastal communities."

Four years later, the river and bay have begun a meager recovery, but the environmental and economic consequences of the 2012 drought are still strongly felt.

"There are less than half the oystermen there used to be, and each of us used to bring in four or five times as much as we do now," said Shannon Hartsfield, president of the Franklin County Seafood Workers Association. "The lifeline to our bay is that river."

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Dan Tonsmeire has served as the Apalachicola Riverkeeper since 2004. He is passionately committed to saving not only the Apalachicola River, which is truly an American treasure, but to protecting and restoring the Apalachicola Bay, one of America's last great estuaries. He is an expert on the flora, fauna and hydrology of the Apalachicola's estuary. "We've got sturgeon, rare mussels and other extraordinary animals in the river," he says. "Plus herons, osprey, eagles, swallow-tailed kites - in fact, the Apalachicola has the highest biodiversity of any river system in North America."

Dan was a backcountry guide in Idaho, a commercial fisherman in Alaska, and the owner/operator of a small marine construction company in Alabama and Florida. He graduated from Auburn University with a degree in Civil Engineering and currently holds a United States Coast Guard Ocean Operator's license.

"I've lived in magnificent landscapes in Alaska and Idaho, and worked in other parts of Florida," he says, but he cherishes Apalachicola's wildness and authenticity: "There are a lot of places in Florida that would be as pretty as Apalachicola; but they've all been developed and covered up. People here still make a living from the water. It's not only a beautiful place; it's a real place."

In early 2016, the corps proposed revisions to the policies contained in its water-control manual and environmental impact statement, but the changes it now recommends, said Tonsmeire, could create even more and prolonged drought periods for the river and bay. And this time, the waterbodies would be unlikely to recover. In addition to the corps not having recognized that the river and bay collapsed in 2012, Tonsmeire insists, they have not "considered the needs of that ecosystem." He wonders whether "they ever even intended to help reach a sustainable, fair and mutually beneficial solution between Florida and Georgia."

Apalachicola Riverkeeper partnered with American Rivers, Alabama Rivers Alliance and the Chattahoochee and Flint Riverkeepers to draft a petition to capture the attention of the corps and urge it to come to an effective solution of the problem. By August 2016, the petition had resulted in more than 28,000 responses sent to the corps.

"We urged the corps to go back to the drawing-board and work with the U.S. Fish and Wildlife Service, NOAA, EPA and stakeholders to create a plan that adheres as closely as possible to the natural quantity, timing, and variability of flows to the Apalachicola and Chattahoochee Rivers," says Shannon Lease, Apalachicola Riverkeeper's executive director.

In addition, working with the environmental law clinics at Stanford and the University of California at Irvine, Apalachicola Riverkeeper, Florida Wildlife Federation, National Audubon, and Defenders of Wildlife submitted an amicus brief to the special master. It outlined a clear path for him to take the ecological functioning of the Apalachicola River and Bay and eastern Gulf into his water-allocation decision. Tonsmeire has also approached

a number of major corporations in Georgia and asked them to consider using their influence to convince Georgia's governor and Congressional delegation to abandon their no-compromise position and embrace a collaborative process that would provide for sustaining the entire ACF Basin.

SETTING A PRECEDENT

The Supreme Court's decision in *Florida v. Georgia* will affect not just the combatant states in this water war. It will also have profound implications throughout the United States. The justices' ruling will set a precedent for national policy and could provide clear guidance for resolving longstanding and costly disputes between states over water sharing and use.

But for now, the fate of the Apalachicola River and Bay is in a painful holding pattern. And thousands of jobs and billions in sales revenues are on the line.

"These decisions will affect people, communities and governments across this country battling for fairness in use, allocation and management of water across state borders," says Tonsmeire. "The opportunity exists to guide how to share water between competing interests - like big agriculture, big development, independent fishermen and ecotourism - on a socially just and equitable basis." **W**

To learn more about the Apalachicola Riverkeeper and to support the organization's work to save the Apalachicola River and Bay, go to www.apalachicolariverkeeper.org. Donations from individuals are 100% tax-deductible.

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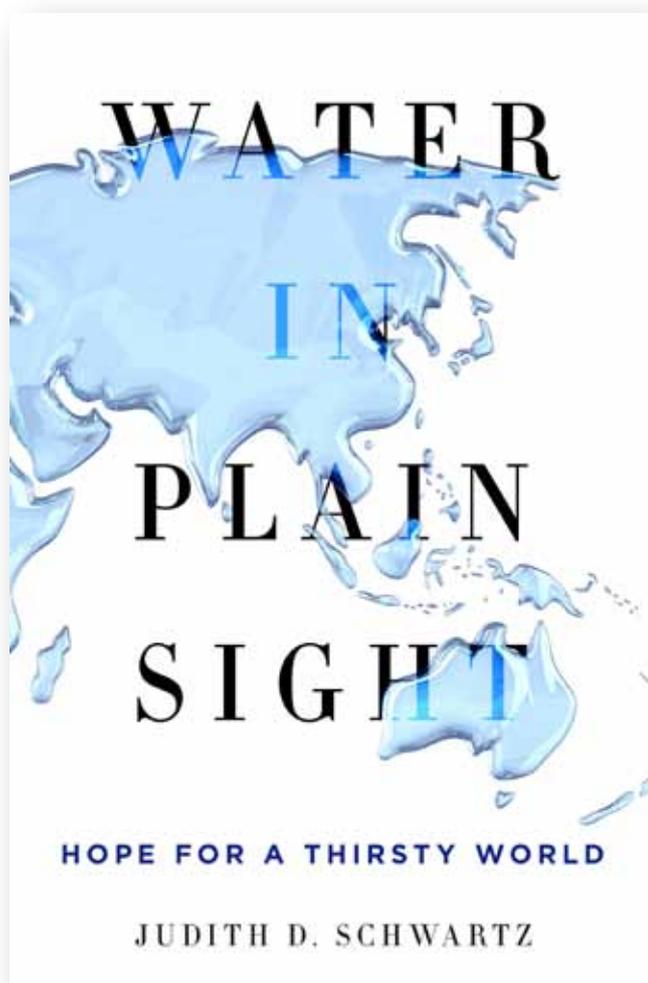
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PHOTO BY DAVID MOYNAHAN

BRICKYARD ISLAND, AT THE LOWER END OF THE APALACHICOLA RIVER, MARKS THE UPPER END OF TIDAL INFLUENCE ON THE RIVER AND IS THE LOCATION OF THE FURTHEST DOWNSTREAM FLOW GAGE, WHICH MONITORS THE ACTUAL FRESHWATER FLOW THAT REACHES APALACHICOLA BAY FROM THE ENTIRE ACF BASIN.



BOOK REVIEW:

Water as Our Planet Intended It

BY JUDITH D. SCHWARTZ

HARDCOVER, 256 PAGES

ST. MARTIN'S PRESS, \$26.99

“Water in Plain Sight: Hope for a Thirsty World” is a book about water, of course, but it’s also about some things you might not consider when thinking about earth’s water cycle: solar energy, soil, livestock and bacteria. And it demonstrates that they’re connected to each other, and to us.

At a time when the news is replete with dire predictions about climate change, this timely, important book does, as the subtitle indicates, offer hope. Judith D. Schwartz, a freelance journalist and author, presents evidence, often anecdotal, that the challenges to water that the world faces are surmountable, and that it might even be possible to create a “reverse tipping point” in the course of climate change.

She recognizes that, for far too long, we have abused the earth through deforestation, sprawling development, irrigation practices that can lead to salinization and empty aquifers, and farming practices that may increase yields but, over time, leave us with less nutritious crops, polluted waterways and, eventually, soil that cannot support life. In other words, we aren’t living sustainably. And what we’ve called progress has severely damaged the natural cycles of water and carbon. (Fossil fuels, which have greatly worsened the damage, are only briefly discussed.)

Schwartz takes her readers around the globe, visiting

ranchers in Mexico, scientists in Africa, Amish farmers in Ohio, and many other “water innovators” in communities, and, by extension, economies, that have been critically affected by climate change and mismanagement of resources, where groundwater and aquifers have been depleted and deserts have advanced. She recounts stories of holistic management and holistic grazing as important ways to restore soil health – and, in turn, a healthy water cycle – in parched areas of the world. Some of these methods, she concedes, are dismissed by naysayers, but she also records the Mexican rancher Octavio Bermudez’s reaction to them: “Our neighbors are waiting for us to fail so they can say, ‘I told you so.’ Thirty years later, they are still waiting.” Bermudez reports that holistic-management practices have lowered his expenses and increased his profits, and that wildlife is returning to land it once fled.

Schwartz, the author of *Cows Save the Planet*, repeatedly points in this new book to practices around the world that focus on our early agricultural roots. She reminds us that chemical additives – fungicides, pesticides and herbicides – destroy important parts of the ecosystem, and that damming rivers to support urban growth, and diverting water and storing it in ways nature didn’t intend, alters natural processes and damages the land and, ultimately, us. She explains that chemical applications make plants less efficient and reduce retention of water in natural systems, exacerbating the effects of climate change and drought. Other modern farming practices (some now out of favor), including certain types of irrigation, over-tilling, fallowing fields and baring soil to parching sun, devitalize and under-nourish the crops that feed us.

Many of Schwartz’s sources share similar experiences where, by improving the soil in their arid lands, they also improved the lands’ ability to absorb flood-water and sustain plants. In telling their stories, Schwartz introduces concepts that may be new to her readers, such as: “transpiration” – the passage of water in a plant from its roots through its vascular system and into the atmosphere, where it becomes a part of the greater water cycle; “biological efficiency,” which is described as “maintaining the

integrity of soil aggregates, and keeping the ground covered with plants to support the soil-food web and avoid surface evaporation”; “oasification” – bringing back water to desert lands; and “constipated soil,” a term coined by the Amish farmer John Kempf to describe what results when biological processes begins to shut down “and it’s like everything is plugged up and it doesn’t work.”

The book argues that returning to natural processes can restore hydrological function, which, in turn, will “help restore land function and carbon, mineral and solar energy cycling.” Schwartz points out that, “We know so little about how these feedback loops operate. But we can nudge these processes toward restoration.”

Schwartz says that she wrote and published *Water in Plain Sight* because she “felt that, while people may talk about water – mainly related to drought and floods – there’s been little understanding about water’s connection to climate, biodiversity, land degradation and food security. I chose to highlight those connections, and show that understanding how water works – how it moves across the landscape and through the atmosphere – opens up possibilities for dealing with many of our large environmental challenges. I also wanted to convey that our ultimate water ‘infrastructure’ is the soil.”

As she writes in the book, “Water needs to be a larger part of our conversations about climate, not just in terms of the impact that climate change can have on water – but also the effect that water has on climate.” (Emphasis hers.)

Humanity’s nature-conquering mentality has ignored the intelligence of the earth’s ecosystem. *Water in Plain Sight* is a call to expand our thinking to include plants and animals as part of the planet’s water cycle, and, further, to emphasize water in solutions to rebalance nature and to save us from ourselves.

Based in Charlotte, N.C., Rhiannon Fionn is an award-winning independent journalist and a filmmaker (“Coal Ash Chronicles”) and author. Learn more about her work at TheWordTrade.com.

CONGRATULATIONS TO THE
WATERKEEPER MOVEMENT
ON 50 YEARS
OF PATROLLING AND PROTECTING
OUR MOST PRECIOUS BODIES OF WATER
AROUND THE WORLD

R A L P H L A U R E N