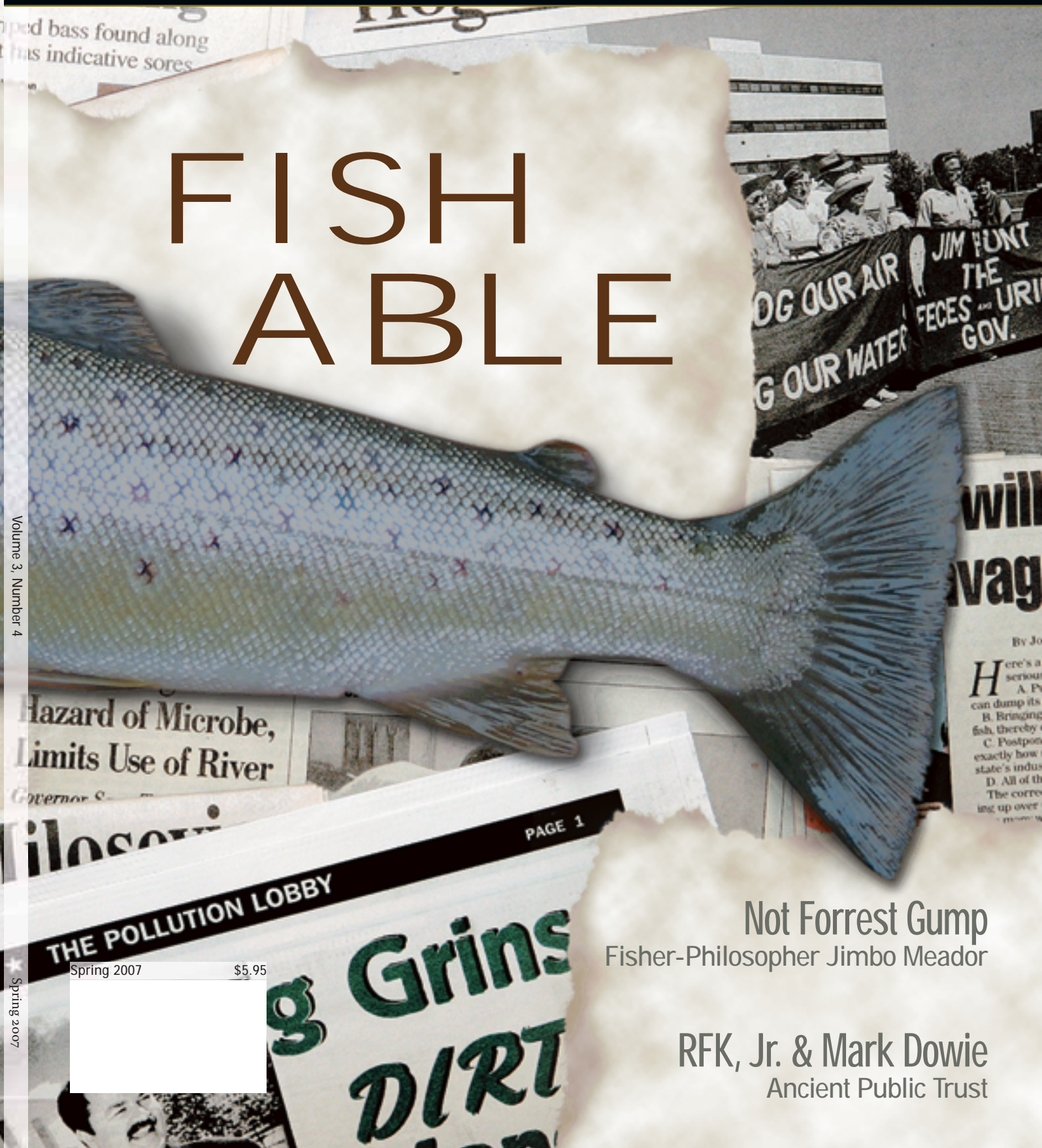


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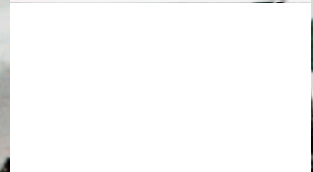
## FISH ABLE



Not Forrest Gump  
Fisher-Philosopher Jimbo Meador

RFK, Jr. & Mark Dowie  
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Spring 2007 \$5.95



Volume 3, Number 4

Spring 2007

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# WATERKEEPER

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## Letter from the President

Robert F. Kennedy, Jr.

# Fighting for What I Love

I have a hunch that a lot of American men, if asked about important boyhood moments, might reminisce about their first kiss or a little league game in which they made a run or an out that clinched their team's victory. Such memories are certainly worth cherishing, but for some of us, something quite different tops the list: pulling a fish out of the water for the first time.

For me, that thrilling experience is a snapshot of a youth spent with water and wildlife. Growing up in Virginia, my brother David and sister Kerry and I often wandered the woods and streams near our house searching for frogs, crayfish and mudpuppies. When my family spent summers at Cape Cod, my cousin Bobby Shriver and I rode our bikes to the tidal inlets at Calmus Beach to crab or to the salt marshes at Squaw's Island to catch fiddler crabs, killifish and mummichogs in a wire trap. We'd go dip netting for painted turtles and baby catfish from a dinghy on Anderson's Pond or beach seining for eels, shiners, skipjacks and Atlantic needlefish; we'd snorkel for scallops until we had enough to feed the entire family gathered at Hyannisport – a formidable task in spite of the scallops' abundance. Several days a week, my parents would take a huge pack of kids in our wooden sailboat to nearby islands where we would fish for sand sharks, scup, flounder, puffers and sea robins, gather hermit crabs, periwinkles and scallops and dig for steamers.

One of my fondest childhood memories involving capturing and feasting on fish was an unforgettable trip with my father and siblings and Supreme Court Justice William O. Douglas, who was a great environmentalist. It was a ten-day

pack trip to Whiskey Bend in the San Juan range on Washington's Olympic peninsula. We lived on the mild, flaky meat of trout cooked over an open flame. Afterward we fished for salmon in Puget Sound and caught more fish than I'd ever seen.

Fishing satisfies many of my appetites. Whether I'm getting blown around a boat on open water or up to my waist in a placid stream, I am nourished by my surroundings of water, fresh air, wildlife and nature's beauty. It can be quiet and solitary or, more often for me, joyously shared with family and friends. There's satisfaction that this pleasurable labor results in getting a healthful meal. Savoring the sweet flavor of fresh fish is one of life's great pleasures.

But unfortunately, eating your catch is often no longer wise. Pollution in many of America's lakes, rivers, streams and coastal areas now makes it unsafe for people, especially children, to eat fish from those waters very often.

I began seeing this first hand around the time I started having children of my own and wanted to share with them the joys of hunting for aquatic creatures. In 1984, the same year my first child was born, I started working for the Hudson River Fisherman's Association, a group of commercial and recreational fishermen who'd banded together to protect their right to harvest uncontaminated fish from public waters. (I still work for the group today, which later became Hudson Riverkeeper). On behalf of the fishermen, I began suing corporations that were killing fish and making them unsafe to eat by illegally dumping toxins into the Hudson River.

They say that you fight for what you love. Working for the fishermen, I started

spending several days a week in and on the waters of the Hudson and that's how I came to truly know and love it. They took me fishing from boats and from the shore for striped bass, black bass and white perch; we'd go fly-fishing in the tributaries for brown and brook trout; we'd beach seine for exotics and shrimp; and we'd scuba dive from canoes in the marshes. Sometimes, I'd explore the tributary streams on my own, like I did when I was a kid. It surprised me to see tropical fish in the estuary. They are funneled into the Hudson in large cells of warm water that break off the Gulf Stream as it flows north past Long Island. In the Croton River, a tributary of the Hudson, I saw sea horses and a fish called a moongazer, which emits an electric shock when you touch it.

A few years after I began working with the fishermen, we set up a program that enables Pace University law students to play a major role in the lawsuits we were filing against polluters. Under a special court order, the students actually argue the cases in court. They are training to be the next generation of environmental warriors who will fight to make the Hudson safe for people and all kinds of fish and wildlife.

These days, I take my own children fishing as often as possible; in summer, we go several times a week. We line fish in the pond behind my house or beach seining in the Hudson River, catching stripped bass, sturgeon and shad. But we don't bring home anything to eat from these outings. Everything we catch, we release, regardless of species or size, because the fish in our area are too contaminated with mercury and PCBs to safely eat.



Tragically, mercury contamination now makes it unsafe for children and women of childbearing age to eat any freshwater fish in Connecticut, most of the fish in New York State and all of the fish in the New York City reservoir system. The fish in 44 states now have consumption advisories because of mercury contamination.

In the Northeast and Great Lakes states, most of this mercury comes from coal-fired power plants. The mercury in coal can mostly be filtered out of air emissions by modern equipment. The Clean Air Act requires power plants to modernize as they make alterations. But a handful of power plants, many of them in the Ohio Valley, have stubbornly refused to put in better filtering equipment. This mercury lands on water bodies, soils and forests, putting the toxin in everything fish eat and ending up in the flesh of the fish humans eat.

The Bush administration has failed to make these coal-fired plants modernize; it even proposed doing away with the part of the Clean Air Act that requires this upgrading of filtering equipment. This led a group of Northeast states and several environmental organizations, including Waterkeeper Alliance, to file lawsuits to enforce the Clean Air Act. What this boils down to is that my children and the kids of millions of other Americans can no longer go fishing in their communities and eat their catch, because the utility industry has such political clout in Washington. The lawsuits have been forcing the plants to upgrade their filtering equipment and not a moment too soon.

About ten years after I started working for Hudson Riverkeeper I started spending a lot of my time helping to set up new Waterkeeper organizations around the country. There are now 157 local Waterkeeper groups around the world. Each is established and run by local citizens who work together to protect a local river, lake or bay. I serve as the president of Waterkeeper Alliance. We are leading a coalition of environmental organizations that has filed a formal complaint under the North American Free Trade Agreement to force the United States to reduce its mercury emissions from coal-burning power plants.

One out of every six American women of childbearing years now has so much mercury in her body that her children are



BILL ABRANOWICZ

at risk for permanent IQ loss, kidney and liver damage, blindness and possibly autism because of the mercury. Half of the mercury emissions in our country are coming from those coal-burning plants in the Ohio Valley.

The contamination of American fisheries also amplifies the pressure on our ocean fisheries, which, it is now widely acknowledged, are in great distress. And now, over 70 to 90 percent of the world's fisheries are considered "over-fished."

Thankfully, the ocean fisheries crisis lately has been getting attention from media and international organizations, such as the United Nations. But it is a long way from being solved.

When Americans can't eat the fish we catch, we are being denied more than a meal: we are being stripped of an age-old right that all of us have to take and eat fish from public waters. Fishing was listed in the ancient Roman Code of Justinian as a fundamental right. As a citizen of Rome, you had an absolute right to cross a beach to catch a fish; not even the emperor himself could stop you. Western law and culture has continued to protect this right over the ages. When Britain's King John began to claim access to fisheries and wildlife as the provenance of the elite at the beginning of the 13th century, it contributed to the revolt that ended with his signing the Magna Carta. The Magna Carta has two chapters on public access to fisheries in navigable waters, establishing it as an undeniable right of all people. American case law and statutes have firmly established that we have the same

rights of access to public waters and fisheries, rights that no president, governor or CEO can deny.

There are at least three things each of us can do to turn the tide on the fate of our fisheries. First, I recommend supporting the work of a non-profit organization that focuses on protecting our waters from pollution and over-fishing. I devote my time to Waterkeeper Alliance, Hudson Riverkeeper and Natural Resources Defense Council and there are many other organizations that do excellent work. These groups have scientists, lawyers and, yes, lobbyists, to get policies enacted that will protect fish populations. Do you have a local Waterkeeper program? That's where to start.

Second, by thoughtfully choosing what we eat, each of us can support sustainable fishing and avoid supporting the worst practices.

Finally and I consider this the most important, we must choose people to represent us in government who are committed to addressing water pollution and over-fishing. There are successful models for re-establishing depleted or contaminated fisheries. Iceland, for one, has been showing the world what a committed government can do to rebuild our ravaged oceans. This work has to be done at the state, national and international levels with enforceable laws and treaties. Supporting politicians that recognize the urgent need for protecting our fisheries is simply the best thing we can do to reclaim our fisheries for future generations. **W**



# ON THE COVER

Press clipping from the Neuse Riverkeeper with trout.

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

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# Who is Waterkeeper Alliance?

We are investigators, scientists, educators, lawyers and advocates. Our 157 local Waterkeepers take responsibility for protecting your river, lake or coast – enforcing environmental laws and standing as the voice for your waterway. Waterkeepers stand up to polluters to guarantee clean water and the health and prosperity of our communities.

Waterkeeper Alliance is proud to announce our first local programs in China. Mr. Zhang Junfeng, engineer and expert on Beijing's waterways, is the Beijing North Canal Waterkeeper. Ms. Yun Jianli, a leading voice for Chinese waterways and a long-time champion of the Han River and the people living along its banks, is the Middle Han Waterkeeper. They are supported by a strong team of advocates including internationally acclaimed journalist and authority on China's water problems Ma Jun, pioneering environmental lawyer Chen Yuechin and founder of Beijing-based Green Earth Volunteers Wang Yongchen. We are excited to welcome China's most inspiring and groundbreaking environmental leaders into the Waterkeeper family.



Middle Han Waterkeeper Yun Jianli watches while a volunteer samples Han River water. In the background, Laurence Luo (who spent last summer with Waterkeeper Alliance in New York) speaks with NY/NJ Baykeeper Andy Willner.

SCOTT EDWARDS

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# The Quick and the WE WIN

On January 26, just days after the *Waterkeeper* magazine winter issue on Industrial Cooling and Ecological Destruction hit newsstands, a federal court ruled in our favor in the case argued in court and described in the issue by Reed Super.



**"This decision will give the millions of Lake Erie fish and billions of fish eggs a chance. They can no longer argue that it is OK to kill fish**

**because of economics. And best of all, the fish will come back once the cooling towers are in place."**

*Sandy Bihn, Western Lake Erie Waterkeeper*

**"Reed Super was the winning quarterback – thanks to his tenacity and intelligence, we succeeded."**

*John Torgan, Narragansett Baykeeper*



## Federal Court Finds Massive Power Plant Fish Kills Illegal EPA faulted for placing power plant profits over public trust

FOR IMMEDIATE RELEASE, January 26, 2007

NEW YORK, NY – A three-judge panel of the U.S. Court of Appeals for the Second Circuit ruled yesterday that EPA cannot allow power plants to kill a trillion fish per year through their cooling water intakes. Cooling water intakes gulp in billions of gallons of river, lake and coastal water to cool power plant machinery. Along with the water, these intakes devour countless fish and fish larvae, devastating fish populations across the country.

In a major victory for environmentalists, fishermen and the public, the court found that regulations issued by EPA in 2004 improperly rejected "closed cycle cooling," a technology that cools plant machinery while nearly eliminating the

need for large infusions of freshwater. This technology also greatly reduces the massive fish kills associated with power plant operations. The court also found that EPA violated the law by placing the profits of power companies above the protection of America's fisheries, defying the direct mandate of Congress in 1972 to EPA to stop these unnecessary impacts.

"This historic decision validates what the environmental community has been saying for decades," said Alex Matthiesen, Hudson Riverkeeper and President of Riverkeeper, Inc. "The Clean Water Act requires use of the best technology available. By ignoring that requirement EPA has thwarted the will of Congress and repeatedly failed to protect fish and

wildlife from needless devastation at the hands of power plants."

"Once again the courts have prevented EPA from rewriting the Clean Water Act at the behest of industry," said Reed Super, Senior Clinical Staff Attorney at Columbia Law School's Environmental Law Clinic and lead attorney for the Environmental Petitioners.

Steve Fleischli, Executive Director of Waterkeeper Alliance explained, "Waterkeeper Alliance filed this lawsuit because EPA has ignored the Clean Water Act by allowing power plants to kill billions of fish each day. The solutions to this problem have been available, affordable and in common use for decades. With this victory, this indiscriminate and illegal slaughter should now stop."





“For three decades PSE&G has been getting away with murder at its Salem Nuclear Generating Station – needlessly killing three billion Delaware River fish a year. This year, when New Jersey issues a renewed permit to PSE&G, they will be forced to stop the fish slaughter and to comply with the law. It is rewarding to have a court finally tell industry, EPA and the states that our environment and our communities must come first.”

*Maya van Rossum, Delaware Riverkeeper and coauthor of “The Quick and the Dead,” the landmark 1995 law review article on fish kills and industrial cooling*



The Elm Creek Power Plant in Wisconsin will be forced to install cooling technology that saves fish and aquatic life.

## Setting Precedent

On March 5, just weeks after the federal court decision, a court in Wisconsin overturned a state agency decision on cooling technology in a massive new coal-fired power plant on Lake Michigan. The state court ordered the agency to make a new decision that comports with the January 2007 Riverkeeper v. EPA case.



## El Segundo

The owner of the El Segundo Power generating station in Los Angeles, CA, is seeking permission from state regulators to switch to a closed-cycle cooling system. The 50-year-old plant is being rebuilt and originally planned on using 127 billion gallons of bay water a year for cooling. The plant will restart in 2010 with cooling towers that will drastically reduce the killing of fish and marine life.

“We plan to take the boat out over the old intake and toast to the future recovery of our beloved bay: the sea turtles, seals, sharks, sea lions, rays and kelp forests — and the millions upon millions of fish.”

*Santa Monica Baykeeper Tracy Egoscue*

# Join Waterkeeper Alliance—Get WATERKEEPER

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# { Ripples }



## Super Wal-Mart Developers Must Obey the Law

Above: Developers illegally trenched a stream and filled in wetlands.

A settlement in a lawsuit brought by Ogoochee Canoochee Riverkeeper and Altamaha Riverkeeper compels developers around a Super Wal-Mart complex to preserve more than 15 acres of wetlands and streams that flow into the nearby Ohoopee River. The lawsuit was brought after developer, Pine Tree II, illegally trenched a stream, removed a stream buffer, filled in wetlands and violated federal law by discharg-

ing excessive amounts of dirt into the surrounding streams and a downstream lake.

Development in the Swainsboro area has exploded in recent years, as have citizen complaints about pollution. The 15 acres of permanently protected wetlands and streams will help treat stormwater, prevent downstream flooding and provide vital wildlife habitat.

## Affordable Heavy Metal Testing

Scientists at the University of North Carolina, Thermo Scientific and the Ohio Network for the Chemically Injured have created a new low-cost heavy metal testing program. The program allows anyone to test the levels of toxic metals in their home, school or work environments. Samples are analyzed for 26 different heavy metals including mercury, lead and chromium using innovative x-ray technology.

The program is part of research on the link between heavy metals and health problems. Identification of the sources of the heavy metals can help reduce or eliminate unnecessary exposures and can prevent diseases and injuries. Chronic daily exposure can cause permanent health damage. For further information visit the Detect and Protect Project at: [www.ohionetwork.org](http://www.ohionetwork.org)

## Quick California Action on Cooling

California Coastkeeper Alliance, a plaintiff in the federal court decision that ordered power plants to stop killing trillions of fish through once-through cooling technology, is making the court's decision a reality in California.

To operate the three Southern California coastal power plants that use once-through cooling, the State Lands Commission leases land from the public. Following the court's decision in January, California Coastkeeper quickly drafted comments demanding that the leases be reopened within five years to ensure an expedited public review of the continued need for those systems. The Coastkeeper and partners also called for annual reports on the plants' compliance to be clearly posted on the Internet, and asked the Commission to delete a rule that it conduct an additional review of the "feasibility" of new 316(b) requirements. The Chair of the Commission, incoming Lt. Governor John Garamendi and the other commissioners approved these changes unanimously and added that the plants must account for any public sand lost as a result of power plant siting.

Finally, as a result of a Coastkeeper Alliance exposé last year on the virtually nonexistent lease fees paid by wealthy plant operators — a mere \$18 to \$42 per year for two of the leases reviewed — the Commission raised the lease fees to \$82,000 and \$350,000/year, a long-overdue change that better reflects the value of the resources used.



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# Beachwalk



On Saturday, February 25, Indian Riverkeeper members joined Beachwalkers Stein Kretsinger and Robert Weinman as they traversed Florida's Treasure Coast on their way from Miami to New York by foot and kayak. The pair is making the 1,600 mile trip to raise awareness of the need to protect coastal waters and to raise funds for Waterkeeper Alliance and Waterkeeper programs.



A comparison of downstream (left) and upstream (right) portions of Esopus Creek. Local fishermen began to call this downstream stretch "Yoo-hoo Creek" after the chocolate drink.

## HONORS

### Hackensack Riverkeeper

Hackensack Riverkeeper Captain Bill Sheehan was honored by Bergen Catholic High School at their 50th Anniversary special awards luncheon in Tenafly, NJ, for the pivotal role his environmental education tours have played in influencing public policy decisions in Bergen County.

### Georgia Riverkeepers

The Georgia River Network, which works to empower Georgians to protect their rivers, recognized Ogeechee Canoochee Riverkeeper Chandra Brown as Conservationist of the Year, calling her an exemplary organizer and champion for her watershed as well as all of coastal Georgia. The Network praised Altamaha Riverkeeper as Watershed Group of the Year.

### Upper and Lower Neuse Riverkeepers

The Neuse River Foundation was recognized as Conservation Organization of the Year for 2006 during the 45th Annual Governor's Achievement Awards of the North Carolina Wildlife Federation Banquet held in Raleigh. The Foundation and the two Neuse Riverkeepers were commended for their continued work to preserve the health of the Neuse River.

## Supremes Uphold Trout Creek Case

The U.S. Supreme Court affirmed a stunning victory for fishermen and clean water advocates in the Hudson River watershed this February. The high court denied the appeal of a lower court decision stopping New York City from polluting Esopus Creek, a pristine, world-renowned trout stream in the Catskill Mountains.

In March 2000, a coalition of fishing and environmental groups including Riverkeeper, sued to stop the New York City Department of Environmental Protection from operating a tunnel that discharged polluted water into Esopus Creek. The city violated the Clean Water Act by transferring water with high levels of sediment through the 18-mile Shandaken tunnel to Esopus Creek without the requisite Clean Water Act permit. The city's operation of the tunnel turned the clear Esopus Creek murky brown, destroying its renowned trout fishery.

In October 2001 and again in June 2006, a federal court unanimously held that transfers of polluted water between streams in different watersheds requires a Clean Water Act pollution permit — which the city failed to obtain.

"The Supreme Court's action confirms that any transfer of pollutants between distinct and unconnected waterbodies without a permit is illegal. Our tireless efforts over these last seven years have affirmed the plain language and intent of the Clean Water Act," said Daniel Estrin, Supervising Attorney at the Pace Law School Environmental Litigation Clinic. With the resolution of this case, the New York's Department of Environmental Protection must pay a \$5,225,000 penalty to the U.S. Treasury for violating the Clean Water Act.

William Joseph Torgan was born on August 31, 2006 to Narragansett Baykeeper John Torgan and his wife Jillian at 8 lbs. and 15 oz. His passions include his mom, food and reggae music. ▼



▲ Noah Reed Revell was born to Inland Empire Waterkeeper Mandy Revell on February 10 at 6 lbs. 7 oz. and 19 inches long.

## NEWEST WATERKEEPERS!





**Aprica**







# 2006 climate hot list

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# End in Sight:

## Court Rules On Shenandoah Nutrient Pollution

**O**n February 22, Honorable Judge James V. Lane ruled favorably on the State of Virginia's lawsuit against the S.I.L. wastewater treatment plant in Timberville, VA. Shenandoah Riverkeeper, Potomac Riverkeeper and Waterkeeper Alliance initiated the case that state officials later took over on behalf of the people of Virginia.

Judge Lane's decision will force the wastewater treatment facility to take immediate steps to upgrade treatment equipment and eliminate illegal discharges.

"Though the court's ruling is a temporary injunction, many of these changes will likely result in a permanent improvement in downstream waters," said Bill Gerlach, Waterkeeper Alliance staff attorney. Judge Lane set the hearing for the Permanent Injunction for July.

The owner of the wastewater treatment plant has filed for Chapter 11 Reorganization under federal bankruptcy law. "The facility argued it needs bankruptcy protection to reorganize and make the needed upgrades," says Shenandoah Riverkeeper Jeff Kelble. "We just want them to do whatever it takes to stop this pollution. These improvements, along with steps that farmers and others in the watershed are taking, will make a big difference in the health of the North Fork Shenandoah River and Chesapeake Bay."

This litigation was initiated by Shenandoah Riverkeeper, Potomac Riverkeeper and Waterkeeper Alliance on August 11, 2006. The groups filed a notice of intent to sue S.I.L. Cleanwater LLC, also known as the North Fork Modular Reclamation and Reuse Facility, under citizen's provisions of the Clean Water Act. The environmental groups' research showed

that S.I.L. Cleanwater amassed astounding violations of annual permitted limits for phosphorous and nitrogen release into the North Fork Shenandoah River over several years. The groups' greatest concern was that S.I.L. had violated its phosphorous limits by about 900 percent during 2005, which means they had released nearly 56,960 pounds more phosphorous than they were allowed under the law during a single year. They also violated their phosphorous discharge by more than 300 percent in 2004 and 500 percent in 2006. There were also a host of violations relating to raw sewage overflows.



As a part of the pending case Shenandoah Riverkeeper worked to document the environmental degradation of the North Fork associated with these illegal discharges. Shenandoah Riverkeeper collected water samples above and below the plant's outflow. Certified lab results showed substantial increases in nitrogen and alarming amounts of phosphorous — up to 140 times greater below the outflow. Shenandoah Riverkeeper also gathered evidence of massive algae growth in rocky riffles below the discharge, where little or no such algae was present upriver.

The Clean Water Act citizen suit legal provisions require that citizens file a 'notice of intent to sue' with the polluter and the state, and then allow 60 days before moving forward with a lawsuit. In this case, the Virginia Attorney General filed their own lawsuit against S.I.L., preempting the Riverkeepers' citizen suit.

"Concerns we had about the Virginia taking over this case were alleviated by the Attorney General's aggressive prosecution of the case," said Shenandoah Riverkeeper Jeff Kelble.



Algae from nutrient pollution (above) chokes the river downstream of the S.I.L. plant (below).



South Riverkeeper caught polluters red-handed after erratic water-quality tests signaled pollution.

## Contractor Fined

South Riverkeeper Drew Koslow was running an errand near an outfall in the Annapolis Town Center this January when he pulled over and got out of his car. For weeks, Drew suspected that illegal discharges were happening regularly from the outfall, but wanted to catch the polluters in the act. Drew found muddy water flowing

from a construction site through the outfall. Drew notified the County Inspections and Permits Office who caught a contractor pumping water from one sediment trap into another, causing the receiving trap to overflow. The contractor was fined \$500 and was required to stop pumping water immediately.



## From a place where it's still safe to taste raindrops.

The purest water comes from the purest clouds. In fact, the clouds are just the first step in FIJI Water's long journey through one of the world's last virgin ecosystems.

Our water begins as rain, purified by equatorial trade winds as it travels thousands of miles across the Pacific Ocean. Once it arrives in Fiji, it falls and filters through ancient volcanic rock over hundreds of years. During this process, FIJI Water collects life-essential minerals, like silica, and finally gathers

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

So it really doesn't matter whether you enjoy FIJI Water in a glass or straight from the bottle. Just take comfort in knowing that it will always be as unique and pure as the environment it came from.



*The nature of water.*

N A T U R A L   A R T E S I A N   W A T E R







**BECAUSE TAKING CARE OF EACH OTHER AND THE ENVIRONMENT IS THE PATH TO A BETTER WORLD, THE RE:VOLVE APPAREL PROJECT PROUDLY SUPPORTS OUR PARTNERS AT WATERKEEPER ALLIANCE IN THEIR STAND AGAINST THOSE WHO THREATEN THE HEALTH OF OUR RIVERS, LAKES, AND COASTAL WATERS.**

The RE:VOLVE Apparel Project takes its mission of promoting social and environmental consciousness seriously. We practice fair trade principles, offer sustainable products, and give back in order to be true to that vision. That's our contribution toward creating a better world.

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RE:VOLVE donates a portion of its proceeds directly to the Waterkeeper Alliance.

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# U.S. Power Company Accused Of Canadian Environmental Crimes

Citizen files action to reduce dangerous mercury emissions from DTE Energy

Detroit Edison's electric generating station consists of three coal-fired power units. One of these was fitted with mercury removal technology for a U.S. EPA sponsored pilot study. That technology cut mercury emissions from that unit by up to 93 percent. Yet the company and EPA claim that the mercury reduction technology is not viable.

SCOTT EDWARDS

**SARNIA, ONTARIO** — On Wednesday, March 6, a Canadian citizen filed criminal charges against a U.S. power company for polluting the St. Clair River with mercury. Scott Edwards is Legal Director of Waterkeeper Alliance and an authority on mercury pollution. Edwards's complaint alleges that DTE Energy Company's coal-fired power plant on the banks of the St. Clair River violates the Canadian Fisheries Act.

DTE Energy, the parent company of Detroit Edison, operates the St. Clair/Belle River coal-fired power plant complex in Michigan. On average, the facility emits 2,000 pounds of mercury each year. A test of pollution control technology in 2004 reduced mercury emissions at the St. Clair plant by 94 percent. Yet, at the conclusion of the 30-day test, DTE Energy disengaged the mercury control technology and went back to emitting the mercury into the air.

More than half of DTE Energy's mercury emissions land in Canada. When the mercury enters the St. Clair River, it spreads throughout the food chain, harmfully altering fish habitat and rendering fish unsafe for human consumption.

Edwards alleges DTE Energy's mercury deposits are illegal under Canada's Fisheries Act and launched a private prosecution. Private prosecutions allow any Canadian citizen to independently prosecute offences in the Canadian criminal courts. If convicted, DTE could face fines of up to \$1 million a day. The complaint alleges two years of violations, for potential fines up to \$730 million.

"DTE has acted with a blatant disregard for the health and welfare of Canadian citizens and Canadian law," states Edwards. "They have chosen pollution over people. For minimal cost, DTE can provide safe energy while slashing its harmful mercury emissions. It is my hope this prosecution will result in significant reductions in DTE Energy's mercury emissions and a cleaner and safer St. Clair River."

Scott Edwards is aided in the action by two other members of Waterkeeper Alliance, Mark Mattson and Doug Chapman. Mattson is lead investigator and the Lake Ontario Waterkeeper. Doug Chapman is lead counsel and the Fraser Riverkeeper. **W**

They have chosen pollution over people.





DONNA KARAN  
NEW YORK

# Why kill a tree to grow a flower?

# SAY NO to CYPRESS MULCH

By Marylee M. Orr  
Lower Mississippi  
Riverkeeper

**Y**our garden and the hurricane-threatened Gulf Coast are closer than you may think. This spring many gardeners will buy cypress mulch, not realizing that the cutting of cypress forests for mulch is destroying vital wetlands that stabilize the coast against hurricanes, storm surges and erosion.

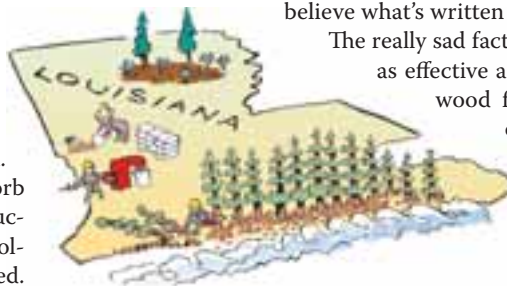
Folks think that levees are the Gulf Coast's first line of defense, but they are not. We rely on our coastal cypress forests for hurricane protection. Cypress wetlands absorb water like a sponge, reducing storm surge and controlling flood height and speed. Cypress wetland forests save lives and protect coastal communities, as well as serve as critical habitat for migratory birds and wildlife.

Most of the cypress mulch on the market today is ground from whole trees, and much of the

cypress mulch comes from illegal logging. Cypress trees take hundreds of years to mature and a considerable portion of these cypress forests will never regenerate if cut. But state and federal government officials turn a blind eye. Meanwhile, retailers use creative language to convince gardeners that their cypress is "sustainable." But don't believe what's written on the bag.

The really sad fact is that cypress mulch is not as effective as other mulches. The heartwood from mature, centuries-old, cypress trees is rot and termite resistant. But the mulch you buy in garden retail stores comes from trees that are far too young to have these qualities. A University of Florida study confirmed that cypress mulch isn't any better for your garden than pine bark or eucalyptus mulch – or even leaf litter.

Please don't buy cypress mulch. Choose an alternative and save our cypress forests. **W**



Cartoonist David Norwood is staff artist and illustrator for the *Baton Rouge Advocate*.



# I AM COW, NOT MACHINE.



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

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Yarra Riverkeeper Ian Penrose on patrol.

YARRA RIVERKEEPER

# Fighting for FLOW

By Stacey Bloomfield,  
Waterkeepers Australia

In 1992, Jim Courier promised to jump in the Yarra River if he won the Australia Tennis Open. He did win and duly dived into the river's murky waters. He survived to tell the tale, but will the Yarra survive?

The Yarra River flows through the heart of Melbourne – Australia's second largest city. It is the main source of water for the city's three million inhabitants and is the centrepiece of its largest wildlife area. Despite its iconic status, historically Melburnians have turned their backs on their river and joked about its dirty brown water.

With support from Waterkeepers Australia, a group of concerned citizens formed the Yarra Riverkeeper Association in 2004 to give the Yarra a voice in the community and with the authorities. Volunteers do much of Yarra Riverkeeper's activities, but in early 2006 the group purchased a small powerboat and appointed Ian Penrose as the official Riverkeeper.

Ask Melburnians what the problem with the Yarra is and the most common reply will be pollution. Yet, the loss of river flows due to excessive water extraction is a more worrisome, albeit under-appreciated, issue. The river is now half its natural size and, as rainfall in this dry part of the world declines further under climate change and the city keeps expanding, the situation for the Yarra will only worsen.

Two years ago, the government of Victoria – the state that sets the policy for allocating water resources – commissioned a scientific study to examine the flows needed to keep the Yarra healthy. During this time, Riverkeeper took a lead role in

representing the community and the river, by actively lobbying to keep the study focused and unbiased. The study concluded that the pattern of flows have attenuated, averaging half the natural level, and need to be restored. The study's recommendation? Water should be temporarily stored and later released to stabilize the flow pattern. Consequently, the government announced that they would get legal environmental entitlement to a small amount of water to regulate flows.

But the government took advantage of this policy. Over the course of the year, the government took more water from the river to supply water to the city. Yarra Riverkeeper was highly critical of the government's behavior in the media and continues to press for the river's needs, not just for a better flow pattern, but also against an increase in extractions.

The key challenge remains pressure on government to supply water to a city whose population is growing rapidly. Today, Melbourne is in the grip of its worst drought on record and faces tight restrictions on water use. In late January, the government made an appalling decision. They decided to defer provision of the Yarra's overdue environmental flows until the drought is over. At the same time, it would implement measures to take more water from the river. Sacrificing the health of a river that supports so many is no way to manage a drought. The government must find a long-term, sustainable water strategy to keep the Yarra alive — there is no other choice. Mark Twain once said, "Whisky is for drinking, water is for fighting over." The fight for the Yarra River continues in earnest, and the Yarra Riverkeeper is at the vanguard. **W**



The key challenge remains pressure on government to supply water to a city whose population is growing rapidly.



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improve the quality of our lives and the world we live in?  
they can.

EcoZone<sup>SM</sup>

EcoZone supports all aspects of the environment: air quality, energy conservation, enhancing green space, and protecting rivers, lakes & streams from pollution by generating funding for technologies and projects that make measurable improvements to the environment.

EcoZone's fully-integrated set of marketing platforms provide corporations with the opportunity to meet their marketing and communication goals in a uniquely sustainable way - by measurably improving the quality of our lives and the environment.



# Conversation with fisherman-philosopher Jimbo Meador

## The Inspiration, Not Model, for Forrest Gump

I've always been a hunter-gatherer by nature. My family spent summers in Point Clear, Alabama, on the eastern side of Mobile Bay, and from the time I was about eight a guy named Duke Cox came most mornings to get me before dawn. Back in our summerhouse, I used to sleep on a screen porch, and Duke, who always knew I wanted to go fishing, would come by and scratch on the screen before daylight. We would go off for the day in our old wooden, cross-plank cypress skiff, rowing. We fished for speckled trout, threw cast nets for mullet and gilled flounders at night. Duke made me my first cast net and taught me how to throw it, and I spent a lot of time with him; he was a mentor to me.

Duke and I used to sell speckled trout and flounder to the fish market and when we had a jubilee, it was like a gold mine. A jubilee is a phenomenon that happens on the Eastern Shore of Mobile Bay and I'm not really sure if it happens anywhere else. Low dissolved oxygen in the water causes it, but the conditions have to be just right. You need an east wind and an incoming tide. I used to keep a logbook, and if the conditions seemed right I'd stay out all night looking for the jubilee.

When water on the bottom doesn't have enough oxygen all bottom dwelling fish and marine life rise up to the surface where there is a layer of water containing more oxygen. Flounder live on the bottom don't have swim bladders to elevate themselves in the water very easily. So they follow the bottom all the way up to the shore where the layer of oxygenated surface water meets the beach. Soon there's big congregation in the shallow water along the beach of flounder, crabs, shrimp, eels and catfish. In the old days it was a big day when there was a jubilee. Everyone started hollering 'jubilee' and you'd see people out there in their pajamas, underwear and everything, women with rollers in their hair gilling flounders and scooping crabs and shrimp. Eels were pretty much let alone.

Gigging is another thing. You have a wood pole with a spear on the end and that's what we call gig-

ging – a flounder gig. Flounders lay on the bottom, they're flat fish. We always tried to gig ours in the head 'cause old Mr. Stern at the fish market was more likely to buy them if the body meat wasn't messed up.

Living here on the bay we always caught shrimp for the table and I still do. I catch white shrimp in my cast net right in front of the house. I've always been interested in shrimping because you catch a lot of unusual stuff. As soon as I got an outboard motor for my boat I started shrimping even more. Later, when I realized that I caught more shrimp than I needed for the table and I could sell them at the local fish market, I became a commercial shrimper. Everyone up and down the bay wanted shrimp to put in the freezer, so it was a good way of making money.

When the sports fishermen began to clash with the commercial fishermen I was on both sides of the fence. In my opinion it's a shame that they spent all that money and time fighting each other. I always thought it would be better to put that effort into protecting the nursery areas. While everybody was pointing fingers at each other, they were missing the bigger problems – growth and development and pollution.

When I got out of the seafood business I started guiding fly-fishermen, practicing catch-and-release and using barb-less hooks. I grew up fly-fishing for bass and bluegill in the lakes and rivers, and as a kid we'd go offshore for dolphin. Guiding fly-fishers was another way of making a living and doing it on the water. I was really just catching them for the fun of catching them and then I would release them. This was my way of conserving, living in harmony with nature.

On the shrimp boats, I always saw that when you pushed bycatch overboard there was a big congregation of fish around to eat it. So I started taking fly-fishermen out there and I'd tie flies that looked like bycatch. I could just about guarantee that I could take somebody out there and catch all differ-



Author Jimbo Meador with an Atlantic salmon caught fly-fishing in Nova Scotia. The fish and fisherman were photographed by Tom MacDonald and released.

ent varieties of fish. So I was still taking advantage of the shrimping fleet. I guess I was a pioneer in that field in the gulf.

Bycatch became a big issue in late 1980s. A shrimp boat catches a lot of fish, crabs and eels that you can't sell, so they throw it overboard. The bycatch on a shrimp boat is visible. You can look at that and see what's happening. But it's hard for people critical of shrimping to appreciate what's happening in our estuaries—mostly invisible to the naked eye – where microscopic eggs and juvenile fish are being killed because of pollution and development. The anti-shrimp people seem mostly concerned about a shrimper who's made his living that way all his life, the way his family did for generations. So who's right and who's wrong?

Having a background in shrimping sometimes brings on added responsibilities. Winston Groom was kind enough to dedicate his book *Forrest Gump* to me and George Radcliff, another friend of ours. When they were getting ready to make the movie, a dialect specialist from Paramount called me to tape a conversation because, she said, Tom Hanks wanted a Southern accent to listen to. We did that, and then the movie came out, and it was a big hit. All of a sudden the media started sending people down to interview Winston. Then they started asking about me because of the dedication, and found out that I used to shrimp and used to be an obsessive runner.

Suddenly, a lot of the media wanted to make me out to be the real Forrest Gump. Problem was, Forrest was an idiot. It was an honor that Winston had dedicated the book to me, but I didn't know if I wanted to go along with the part about being an idiot. Winston was encouraging me to talk to these people, but it really got out of hand. *People* magazine came down here and a television program called *A Current Affair*. *The London Times* sent a reporter, different magazines and newspapers, even a radio station in Australia. Finally, the people at David Letterman called to talk to me about

being on the show but there I drew the line. I kept telling everybody the story is fiction. After all that quieted down a little, the lady who was the dialect specialist called me and I said to her: "I've been asked a million times, did Tom Hanks actually study the tape I made?" She said, "Yes, he did use it." And I said, "Well he talked like an idiot." And she said, "That came from the kid actor who played him as a child. They decided to use that dialect throughout the movie, but Tom found your accent *very interesting*." That's how she put it.

There are things I liked about Forrest. He was a good person, kind of naïve, but a good person who went with the flow. Today, everyone is more concerned about the dollar than doing the right thing. They don't think about everyone that's living, everything that's existing. People want to live on the water, but in the process of developing all this waterfront property we are destroying nursery areas where fish and marine life have to grow up and live until they get into deep water.

Because of the population explosion on the coasts, our environment has become far more sensitive than it was when I was a kid. I got concerned about the changes in the fisheries and our estuaries because I could see it changing for the worst before my eyes while I was growing up. So I got on the board of directors of the Mobile Bay-keeper. I'm now an honorary board member and always trying to do my part to support our Bay-keeper, Casi Callaway.

Sometimes I wish I could go back to the old times. It seemed like we had more of a sense of community then. But there are some people doing things now that are helping the fish and the bay. I always thought people should enjoy life but not do anything that is going to hurt anyone or anything. That's just the philosophy I try to live by. **W**



A mix of sea creatures congregate on the shore during a Mobile Bay jubilee.

"...did Tom Hanks actually study the tape I made?" She said, "Yes, he did use it." And I said, "Well he talked like an idiot."

# know your rights

You have the right to plentiful and edible fish.  
You are the owner of your stream and river, lake, bay and coast.  
You have the right to use them as long as you don't interfere with  
the use of them by anyone else — and as long as they are free from  
pollution and destruction by our hands, there's plenty for all.

## medieval code

In the sixth century the Roman Emperor Justinian ordered the codification of imperial legal doctrine as the *Corpus Iurus Civilis* [Body of Civil Law]. The Justinian Code spread throughout the Roman Empire and forms the basis for English, and now U.S., Common Law. Justinian Code spells out the Public Trust Doctrine, which says that the public — no individual, no government, no corporation and no polluter — owns our waterways.

## fishable & swimmable

U.S. Congress passed the Clean Water Act in 1972. The goals of the law are broad and ambitious: fishable and swimmable waterways and zero discharge of pollution into our rivers, lakes and coastal waters by 1985. We've missed the deadline. But the goals and the law remain in effect.

The right to clean water is almost universally recognized worldwide. The United Nations Charter and the legally binding 1966 International Covenant on Economic, Social and Cultural Rights implicitly and explicitly recognize the human right to clean water.



# codex justinianus <sup>(528)</sup>

## BOOK II.

### OF THINGS.

#### I. DIVISIONS OF THINGS.

In the preceding book we have treated of the law of persons. Let us now speak of things, which either are in our *patrimony*, or not in our *patrimony*. For some things by the law of nature are common to all; some are public; some belong to corporate bodies, and some belong to no one. Most things are the property of individuals who acquire them in different ways, as will appear hereafter.

1. By the law of nature these things are common to mankind — the air, running water, the sea, and consequently the shores of the sea. No one, therefore, is forbidden to approach the seashore, provided that he respects *habitationes*, monuments, and buildings which are not, like the sea, subject only to the law of nations.
2. All rivers and ports are public; hence the right of fishing in a port, or in rivers, is common to all men.
3. The seashore extends as far as the greatest winter flood runs up.

## WATER POLLUTION PREVENTION AND CONTROL ACT <sup>(1972)</sup> (33 U.S.C. 1251 et seq.)

AN ACT To provide for water pollution control activities in the Public Health Service of the Federal Security Agency and in the Federal Works Agency, and for other purposes.

*Be it enacted by the Senate and House of Representatives of the  
United States of America in Congress assembled,*

### TITLE I—RESEARCH AND RELATED PROGRAMS DECLARATION OF GOALS AND POLICY

**SEC. 101. (A)** The objective of this Act is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. In order to achieve this objective it is hereby declared that, consistent with the provisions of this Act—

- (1) it is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985;
- (2) it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983;
- (3) it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited



# Fish Kills, Fishermen and *Pfiesteria* on North Carolina's Neuse River

By Rick Dove

»FROM THE time I was nine years old the only thing I ever really wanted to do was to work on the water, fly a seaplane, be a tugboat captain, fisherman, whatever. But my folks talked me out of that; “you gotta feed your family, get an education.” One thing led to another and I went to law school and then volunteered for military service to avoid the draft. I liked it so much I stayed for 25 years. But through it all, even in Vietnam when the rockets were raining in, I never turned loose of that childhood dream to work on the water.

So when I retired from the Marine Corps in 1987, that's exactly what I did. I took off my uniform, put on a bunch of old cloths, bought 800 crab pots and fishing nets, got in my boat and launched my career as a commercial fisherman on the Neuse River.

Prior to 1989, the Neuse was a fisherman's paradise. The fish were healthy and the waters were clean. I remember a lot of people saying to me, “Why in the world with a law degree would you become a fisherman?” I would always say, “It's like hunting treasure and it's in my blood.” But my parents were right; you still need to be able to feed your family. That's where the rub comes in. I can remember when the Neuse River started to turn ugly, just before the big kill in 1991. Many fishermen could already see that the fish were in trouble and that our river was quickly becoming a “paradise lost.”

## Paradise Lost

In 1991, the Neuse River suffered one the largest fish kills of any river in America. In a matter of days during September 1991, we lost over one billion fish. The fishermen looked at what was happening in disbelief — millions upon millions of fish covered in open, bleeding sores. Some had holes completely through their bodies. No one had a clue as to the cause. Oxygen levels were normal

and nothing previously known could explain what was happening. Before it was over, the river and its beaches would be covered with dead and dying fish of all types, but the Menhaden were hit the hardest. The stench from these rotting fish filled the hot summer air with a putrid smell so foul that only the bravest ventured outside. On the north shore of the river a bulldozer worked late into the night burying as many of the now bony creatures as possible.

State officials came down to look at the state of the river. I'll never forget it. They stood there in silence shaking their heads. They didn't have a clue what was going on. And it wasn't just the fish. I had sores on my body, the same as the fish and my son was sick too. I was suffering memory loss and I didn't know why. I turned myself into the hospital thinking I had a brain tumor because I couldn't remember things anymore. It was really bad. Other fishermen were complaining about similar problems but no one was linking it to the water.

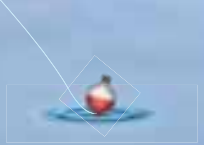
Then a University of North Carolina scientist, Dr. JoAnn Burkholder, figured out that nutrient pollution was causing the spread of a one-cell animal — a creature so tiny you can put 100,000 of them on the head of a pin. This creature was producing a neurotoxin in the water that was also getting into the air. In the water the toxin paralyzes fish so that the creature can get to blood cells and suck out the contents. *Pfiesteria* is, simply, a microscopic killer vampire. When the news hit, people got frightened.

The state shut down the river. The fish market crashed. The news of *Pfiesteria* and what it does to people — the memory loss and respiratory problems — spread. The tourism industry stalled and real estate values dropped. Properties along the river couldn't even be sold. The pain and suffering that reverberated through the



Future waterman, Riverkeeper and author Rick Dove with his Aunt Margorie Black in Bear Creek, MD, 1946.





Massive fish kills stem directly from nutrient pollution. The scale of the Neuse River fish kills in 1991 and 1995 is almost unimaginable: hundreds of millions of fish, and the entire population of commercially important Menhaden, killed in a matter of days.







In 1993 Rick Dove launched the Neuse Riverkeeper.

community was unbelievable. It was one of the most terrible events I've ever witnessed in my life.

By that time I had become the Neuse Riverkeeper — I started in 1993. And if there's anything that was satisfying to me at the time it was that I would have my chance to get even. We knew where the problems were coming from. We had the ability to fix them.

### Listening to the River

Another thing happened that is critical to this story. There was a public meeting scheduled for July 1995 to address water quality problems in the Neuse River, not related to fish kills but to algae. There was so much vegetation growing in the river in the summer of 1995 that people couldn't get up some of the major tributaries to the Neuse in their boats. It would clog their propellers and their engines would burn out. They complained so much that the Mayor of New Bern and state officials set up a public meeting to discuss the problem. But they had to postpone the meeting because Hurricane Felix came through. They rescheduled the meeting

for September 4, 1995. I truly believe that the river made that hurricane happen. Because the very day of the rescheduled meeting was the day the nightmare of 1991 was repeated.

Fish kills on the Neuse had been building in intensity since early August. Once again, on September 4, 1995, fishermen watched as dead and dying fish covered the shores of the Neuse — 200 million dead was one estimate. In 1991 every Menhaden in the river had died, and a total of a billion fish were killed. This 1995 fish kill wouldn't be as big — but only because now the fishery had not yet recovered from 1991. Would things be different this time? This time the Neuse had someone to champion her cause, a Riverkeeper and a corps of more than 200 active volunteers patrolling and advocating for the river. This time things would be different — and they were.

On the evening of September 4, 1995, the Town Hall meeting room in New Bern was filled with about 1,000 people. At no time in the history of North Carolina had that many people attended this type of meeting. When Jonathan Howes, Secretary for Health and Environment, and his staff walked in, you could see the concern on their faces. People were unruly, they were angry and this time it wasn't

*Pfiesteria*, the 'cell from hell,' emits neurotoxin that paralyzes and kills fish. Fishermen and others experienced respiratory and memory problems, and sores identical to those on the fish. Yet in North Carolina state health officials mounted a long-term campaign to discredit the possibility that *Pfiesteria* was in any way implicated with human health complaints.





# Solving the *Pfiesteria* Puzzle

» IN THE 1840s, Ignaz Semmelweis showed that when doctors washed their hands before surgery, patient survival increased. He was ostracized from the scientific community and died after suffering a nervous breakdown. In the 1950s Alice Stewart uncovered that small amounts of radiation can damage human fetal development. She lost her job and struggled for years until she was finally vindicated. In 1974 Sherwood Rowland and Mario Molina showed that chemical industry-produced chlorofluorocarbons were creating dangerous ozone holes. The DuPont Company and affiliated scientists attacked their data for nearly 20 years. In 1995, Rowland and Molina received a Nobel Prize honoring their research.

Considered in this light, perhaps it's not surprising that the *Pfiesteria* story became so ugly and personal. Or surprising that ultimately, in January 2007, the crucial piece of evidence was finally confirmed and good science prevailed.

Dr. JoAnn M. Burkholder is an Associate Professor of Aquatic Botany and Marine Sciences at North Carolina State University. From the time *Pfiesteria* was first discovered in 1988, she was the only scientist providing answers and solutions that made sense. "It's nutrient pollution," she said. "The river is out of balance, polluted with fertilizer coming from agriculture and wastewater treatment plants. And it is *Pfiesteria* killing the fish and poisoning the fishermen."

The state of North Carolina, however, decided that what was killing tourism, the fisheries market and development was not pollution — it was what Dr. Burkholder was saying about *Pfiesteria*. They knew her science was right. But they didn't want her saying it in public.

The lion's share of federal research funding went to scientists who proclaimed that a fungus caused the fish kills and that *Pfiesteria* was nontoxic. The state and their scientists undertook a vicious public campaign to discredit Dr. Burkholder. They claimed that she had refused to give them toxic cultures and had blocked their research. Some accused her of fraud. Their attacks were covered in *The New York Times*, *Science* and other national and local media. Most of the press ignored documentation that Dr. Burkholder had provided cultures to these scientists, and that others had not asked for cultures until after their papers were published. The independent research by other laboratories that confirmed her studies was downplayed or ignored.

Leading detractors at the National Oceanic and Atmospheric Administration (NOAA) research laboratory in Beaufort, NC and other 'anti-*Pfiesteria*' scientists received millions of dollars. These scientists had never worked with the complex microbe and contributed literally nothing to advance the science. Meanwhile, another federal scientist continued research on *Pfiesteria* with minimal funding — Peter Moeller of the NOAA Center for Coastal Environmental Health and Biomolecular Research in South Carolina. After eight years, he unraveled the complex process that produces the potent *Pfiesteria* toxins. Dr. Burkholder's findings and conclusions were validated yet again. After nearly 15 years of vicious personal and professional attacks, Dr. Burkholder has been getting public apologies from newspapers and scientists who realize the importance of her research and her heroism in standing for good science.

Neuse Riverkeeper, Neuse River Foundation, the people of New Bern and Waterkeeper Alliance stood with Dr. Burkholder through it all. We could see that what was happening in the water was the very same thing that she was finding in her lab. Her story was detailed in *And the Waters Turned to Blood*, an amazing book by Rodney Barker (Simon and Schuster 1996).

In the end, the scientific detractors wasted millions of tax dollars. They damaged the laboratory and reputation of a good scientist. Most importantly, they squandered years and millions of dollars that should have been spent understanding this toxin and how to help its human and piscine victims.



Don't Shoot the Messenger — Dr. JoAnn Burkholder

## Pfiesteria timeline

### DISCOVERY

**1988** *Pfiesteria* first identified as an accidental contaminant in fish cultures.

**1991** Dr. JoAnn Burkholder and colleagues at University of North Carolina link *Pfiesteria* to massive fish kill in North Carolina.

### RESEARCH

**1992-1993** In field and laboratory research, *Pfiesteria* grew best with nutrients from crop and lawn fertilizers, human and animal wastes, and other pollution sources. Workers suffered central nervous system damage from contact with fish-killing cultures. Officials shut down the laboratory for more than a year. Further work was moved to biohazard level III facilities.

### CREATING CONTROVERSY

**1993-1997** Research linking *Pfiesteria* to fish kills, nutrient pollution and human illness was fought by NC health officials, various industry officials and affiliated scientists. State agencies directed funds to scientists to disprove the research.

**1998-2001** Three scientific panels separately organized by Maryland, North Carolina and the U.S. Centers for Disease Control re-evaluated and supported findings on the biology and toxicity of *Pfiesteria*. U.S. Congress directed at least \$80 million for *Pfiesteria* research and management. Most of the research funds went to scientists who had not studied *Pfiesteria*, but questioned its ability to make toxin and cause fish kills or human illness.

**2002-2006** The detractor scientists published three science papers and press releases announcing that toxic *Pfiesteria* doesn't exist. Meanwhile, NOAA scientist Peter Moeller and colleagues in Charleston, SC identify a new group of potent *Pfiesteria* toxins. Another year went by, with more damaging public attacks by the NOAA-Beaufort scientists, while the toxin manuscript was subjected to 18 separate internal reviews rather than the single internal review that is typically required.

### RESOLUTION

**January 2007** The NOAA-Charleston scientists publish their paper on *Pfiesteria* toxins, unequivocally validating Dr. Burkholder and colleagues' research and findings. In January, the major newspapers in North Carolina each carry stories validating her research and vindicating her personally — most of these papers, up to that point, had been selectively reporting only the work of her critics.





SUN JOURNAL

Rick Dove breaking the bad news to North Carolina Governor Jim Hunt in New Bern, 1995.

RICK DOVE



Posted on highway 70 near New Bern, 1995.



Mats of algae clog the Trent River, a tributary of the Neuse.

RICK DOVE





just the fishermen. It was the business owners, tourism officials, local elected officials and others from nearly every walk of life. They wanted answers.

Secretary Howes and his staff were on the stage along with a few other scientists. Most of them didn't have a clue as to what was happening in the river. As the Neuse Riverkeeper, I was able to relay to our visitors how the river was suffering. Everyone else there already knew. The only one who provided any real answers was Dr. Burkholder, who again confirmed that the fish kill was caused by *Pfiesteria*. After the presentations the panel entertained questions from the audience. The line of people was very long. Everyone had questions and no one wanted to leave before they got some answers. It was getting late and there was no way all the questions were going to be answered. People began to raise their fists; they began to shout—and the language wasn't pretty. It was all that Mayor Tom Bayliss of New Bern could do to maintain order in the auditorium. I don't think anybody but Mayor Bayliss could have pulled that off.

Secretary Howes and his staff just made excuses. They denied any connection between what was going on with the river and health problems. Fortunately for us, Secretary Howes had agreed to go for a boat ride the next day.

I remember the next morning just as plain as day. On the way down to the dock Secretary Howes leaned over to me and said, "Rick, what's that smell?" I answered, "You're gonna see for yourself."

It was rainy and misty; you could hardly see. The skipper navigated the Riverkeeper boat to the middle of the river by compass and depth finder. The secretary stepped over to the rail and looked down at the water. The fish were all around the boat doing death spirals — spinning out of control in the water as the neurotoxin took effect. Chunks of their bodies were missing, a hopelessly sad scene. No one said a word. It was the river's turn to speak. Secretary Howes sat silently for about ten minutes, then said, "Take me to shore, I've seen enough." When we got back he went directly into the Neuse River Foundation office and called the governor. He said he told the governor that the Neuse River was broken and needed to be fixed.

### The Long Walk

The governor shut down a major section of the river. The fish markets crashed. The news of *Pfiesteria* and what it does to people — the memory loss and respiratory problems — spread like a potent virus. The tourism industry stalled and real estate values went belly-up. The pain and suffering that reverberated through the community was unbelievable. It was one of the most terrible events I've ever witnessed in my life.

But state officials still did not take full responsibility for protecting the public and addressing the problem. As state marine patrols were out there chasing people off the river, politicians were holding fish cookouts on the shore in New Bern to try and convince people the fish were safe to eat.

All of us at the Neuse River Foundation were out there, putting our health on the line, and we made a promise that those poor fish were going to count for something. We didn't hold back. Our community was in danger. Fishermen were getting hurt. That was very painful for me because I am still one



RIK DOVE

## When Fish Die

Advocates face a dilemma when fish die. The initial response of any advocate is to go public, raise hell and make every dead fish count in the fight for restoration. To be sure, protecting public health demands such action. But there are consequences. As bad news and river closings shut down their markets, fishermen are victimized along with the fish. Property values decline and tourist dollars dry up.

The better approach is to get in front of the problem — prevent fish kills from happening in the first place. To be sure, this is far more difficult. The solution is to get state and federal officials to act before crisis hits. The solution is making sure that advocacy is unwavering and effective so no one forgets the risks that pollution presents to the waterway and surrounding communities. The solution is ensuring that no one believes that polluted water, sick fishermen, wrecked businesses or dying fish are acceptable. Solving the problem is what Waterkeepers on the Neuse, Chesapeake Bay and around the world do on a daily basis.

The crab fishery is still active on the Neuse: fisherman David Conner with crab pot in 2002.

“This is a tough fight that we are in, but failure is not an option. I will keep pushing, keep fighting and keep raising hell for as long as it takes. This is who I am, not what I do. Being Riverkeeper is the most important thing I have done in my life, and I understand and accept the responsibility of the job. Others depend upon that dedication, and I WILL NOT let them or the Neuse down.”

Lower Neuse Riverkeeper Larry Baldwin patrols the Neuse from Goldsboro to the mouth where the river enters the Pamlico Sound.

of them. For these fishermen there would be no treasure hunt — there would be no paycheck.

Later, Governor Hunt came to New Bern. I was there as Riverkeeper along with the President of the Neuse River Foundation and a few others to meet with him. He wanted to talk privately with us but there were so many people around that we had to ask him to walk out on the dock. There were things we wanted to say and we wanted it to be private. We told the media to stay back and walked out onto the pier. To this day the event is remembered as “the long walk on the short dock.”

Government InAction

We told him, “Governor, this is your fault. You’re responsible for this and so are the members of the General Assembly. Now you have this horrific problem on your hands. The river’s dying and you let it happen. No more excuses. It has to be fixed!”

At that point the politicians took over. At first, instead of talking about reducing pollution, all they talked about were quick solutions. Members of the General Assembly came in and formed a Fish Kill Committee, referred to by some as the “Kill More Fish Committee.” They were talking about doing really stupid things like blowing holes in the Out-

er Banks where the Neuse waters empty into the ocean so the river could flush itself.

Ultimately the federal government stepped in with about \$200 million to help the river. The state came up with a bunch of programs aimed at reducing nutrient pollution. Eleven wastewater discharge pipes were pulled out of the river. A lot of things did happen between 1995 and 2000 to fix the river. Fish kills did decline. The Neuse River Foundation and the Neuse Riverkeeper made good on our promise to those fish — we made those deaths count for something.

The real problem now is that time has passed and apathy has set in. As soon as the headlines died down and the tourism industry stopped screaming, things started to go back to the way they were. Many of the programs that the state implemented ten years ago are no longer being enforced. The Neuse is endangered once again.

Now when fish die in the Neuse River the state sends out their Rapid Response Team — locals refer to them as the ‘Rabid Response Team.’ When they go out to investigate fish kills they come in and report that the fish were hit by lightning. They actually say that. I don’t know how lightning puts sores on fish. They say the sores on the fish are from rough water that raked the fish against the

Pocomoke Stocks Close Down

Fish kills and *Pfiesteria* are a reoccurring national problem. The Chesapeake Bay and Pocomoke River are home to one of the nation’s most productive fisheries: fat, salty, succulent oysters, blue crabs and species of fish too numerous to mention. It’s a centuries-old tradition and a vital economic engine, generating about \$750 million each year.

In early August 1997, watermen on the Pocomoke River began to observe fish swimming erratically, their bodies covered with bleeding sores. Between August 4 and 9 between 10,000 and 30,000 fish perished. Maryland Governor Glendening immediately ordered a team of health experts to the river. Fishermen, residents and even the researchers suffered skin lesions

and rashes, nausea, burning eyes, headaches, respiratory problems and memory loss. Researchers confirmed the cause of the fish kill and health problems as *Pfiesteria*.

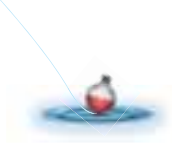
The governor closed the Pocomoke and the already embattled bay fisheries crashed. Restaurants and seafood houses were stuck with a product that wouldn’t sell. Many dealers and restaurants, unbelievably, had signs in their windows proclaiming their seafood was safe to eat — it was from North Carolina.

Today, the Chesapeake Bay and Pocomoke River are still plagued by nutrient pollution, most of which comes from industrial poultry producers. Waterkeeper Alliance and our 15 Waterkeepers in the Chesapeake Bay watershed are taking on industrial meat factories and any other polluter that stands in the way of a health bay.



Chesapeake Bay Blue Crabs at market

INGRID OULIPHANT/ISTOCK



## Hog Factories Spray Before the Rain

March 1, 2007: An industrial hog facility discharges waste under gathering rain clouds — note where spray crosses over a ditched area. Hog producers spray manure on fields in amounts that far exceed the capacity of the land to absorb the nutrients. Manure then washes off the fields during storms. Ditches in most sprayfields are directly connected to streams and, ultimately, the river. Hog sheds and waste lagoon are visible in the background. GPS coordinates: N34 55 658 W077 657



LOWER NEUSE RIVERKEEPER

“The pollution threats we face in the Neuse River are in many ways common to waters all across the planet. As Riverkeeper, you quickly realize that our public water resources are mismanaged and exploited for the benefit of a few special interests. Riverkeepers all share an obligation to ensure that future generations have clean water. We are the voice at the table for those that cannot speak for themselves.”

*Upper Neuse Riverkeeper Dean Naujoks works to protect the upper reaches of the Neuse River and Falls Lake.*

sediments on the bottom. Some of the most ridiculous things you’ve ever heard in your life are the excuses that the state is now giving for fish that die on the Neuse. It’s all about covering it up, keeping the public satisfied that the river is all right. It’s a policy of deceit. The same policy that led to the major fish kills in the first place. We have come full circle.

The state has not followed through on the nutrient reduction programs because of all the pressure from some of the very same people who were complaining back in 1995, the tourism and development guys. All the people who suffered the economic pain and helped us get the state to set up pollution control programs now want to put pollution pipes discharging partially treated sewage back into the river. They want more sewer capacity and the easiest way to get it is to put the pipes back into the river.

But we will not allow greed and short memories to prevail.

### Fishable Future

Through advocacy and leadership we’ve made a lot of progress restoring the Neuse. We’ve used litigation to upgrade failing wastewater treatment plants; we’ve removed 11 major wastewater dischargers and forced the state to set enforceable limits for nutrient pollution. Today, there are new buffer rules and sedimentation regulations set up to protect the river. We have also brought the construction of new industrial hog factories to a screeching halt — proving that animal factories can’t compete with family farms unless they are allowed to break the law.



RICK DOVE

But the Neuse’s restoration is far from complete. Today, the Neuse is faced with numerous challenges both old and new. Untreated fecal waste from the basin’s swine produce the equivalent waste of 20 million people, routinely discharged untreated to the river. Developers are demanding construction of new wastewater treatment plants that will dump more nutrients into the river and regulations to enforce existing environmental laws go unenforced.

But the Neuse is in the hands of two Riverkeepers fully equipped to handle the job. Together, these two river advocates bring more than 600 pounds of muscle, 13 feet of height and the kind of grit that would put the likes of John Wayne in awe.

Today’s Neuse Riverkeepers, Larry and Dean, work on the water in classic bulldog Riverkeeper style. They have taken over the decades-old battle to keep the Neuse open and safe for fishing. She’s in good hands — of that I am certain. **W**





# Blue Pastures in Public Trust

The Bush administration has made bringing industrial aquaculture to the ocean a national priority.

By Mark Dowie

»THE UNITED STATES currently imports about 75 percent of the seafood Americans eat, adding \$7 billion to our trade deficit last year. This is something the Bush administration would very much like to change, and it is the president's stated goal to reduce the nation's seafood trade deficit to zero by 2025. Given the country's growing population and its reliance on stock from the severely overfished waters off America's coasts, this is no small challenge.

One administration solution is to lease vast regions of the Exclusive Economic Zone (EEZ) — waters between three and 200 miles offshore — to industrial fish farmers. As they do elsewhere in the world, these high-tech aquaculturalists would suspend huge cages into the cool, calm water beneath the waves and surface currents, known to oceanographers as the pelagic zone. Salmon, cod, amberjack, flounder, halibut, red snapper,

threadfin and cobia will be raised in the cages, like cattle in feedlots, fed ground fishmeal robotically from rafts on the surface. When the fish are grown and ready for market their cages will be raised to the surface for harvest.

The administration calls this plan Open Ocean Aquaculture and the National Oceanic and Atmospheric Administration (NOAA), a branch of the Department of Commerce (DoC), last year drafted a bill that would create a legal framework for the venture. The National Offshore Aquaculture Act (S.1195), introduced by Senators Ted Stevens (R-AK) and Daniel Inouye (D-HI) as a courtesy to the administration, cleared the White House Office of Management and Budget (OMB) and died in committee. NOAA has revised the bill and sent it back to OMB. In the meantime President Bush has kept the initiative alive with a \$3 million promotional appropriation to NOAA. The

bill is NOAA's top legislative priority for the current Congressional session. It's the number five issue at DoC.

A battle is brewing between critics of the NOAA plan, who call it "Ocean Ranching" and its supporters who have dubbed it "The Blue Pastures Initiative." Environmentalists argue that ocean aquaculture is already creating serious ecological challenges with escaped fish (some of them transgenic), parasite and disease transfer from farmed to wild stock, massive sewage discharge and other unsustainable usage of marine resources. Relocating the farms to the open ocean will also remove them from state control and limit public scrutiny.

At hearings held before the Senate Committee on Commerce, Science and Transportation, serious environmental questions were raised about open ocean aquaculture. Escaped fish are particularly problematic as they are capable of inter-



Yellowfin tuna raised in an open ocean pen in Mexico.

LOUISE MURRAY/ALAMY

breeding with and compromising the gene pool of wild stock. They can also overtake habitat. Atlantic salmon now run wild in the Pacific. And according to a recent article in *Science* magazine, mercury, PCBs and other waterborne toxins are found in aqua-farmed fish at levels three to five times those in wild fish, a consequence of feeding the captives contaminated fish meat. Water pollution from pathogens, antibiotics and nitrogen are also expected.

Supporters of the initiative acknowledge some of those problems, but claim they will be greatly reduced by moving fish farms out of coastal waters, which are more environmentally sensitive than the open ocean. NOAA claims to be aware of the hazards of aquaculture and has promised to include environmental impact analysis and regulatory oversight in the proposed legislation, alongside provisions to streamline 10-year site permits through a “one stop permitting process.”

If a bill ever passes Congress, whatever NOAA comes up with will certainly be tested in federal court. There jurists will grapple with property and stewardship questions in the legally uncharted pelagic. According to Alison Rieser, a marine lawyer at the University of Maine, “There is no clear legal basis for granting property rights that are needed to protect the large investments necessary to build and operate offshore aquaculture facilities in the open ocean.”

### A Venerable Doctrine

At the heart of this issue lies the question of whether or not the oldest surviving common law in history, the Public Trust Doctrine, applies to this issue. Can a doctrine that for 15 centuries defended the shorelines of Europe and then North America as “common to all mankind” be invoked by defenders of the ocean? American coastal waters have always been regarded as an element of the national commons, protected by government as a public trust, to be left open for navigation, recreation and the licensed catching of wild fish — which also have long been established as a public asset. What right, plaintiffs will ask, does the federal government of the United States have to lease ocean water to anyone, particularly if doing so could harm fish in the rest of the sea?

The notion of a public trust has a venerable history. It was first proffered in 528 AD, when the Roman Emperor Justinian decided to condense the unpublished rules and edicts handed down by his predecessors and create a unified code of imperial law. A year later, 10 legal experts delivered the *Codex Justinianus*, to which the emperor then added an idea expressed by the jurist Marcius two centuries earlier:

By the law of nature these things are common to all mankind, the air, running water, the sea and consequently the shores of the sea.

Since then, the Public Trust Doctrine has percolated through centuries of war, successor empires and colonization. As English, French and Spanish kings built their empires, the doctrine was adopted as common law. When new American states joined the original 13 colonies they

too were bound by a common law that granted state governments sovereign rights to common land and sovereign responsibility for its care. The idea of the public trust was synonymous with America’s promise of freedom. Several states eventually wrote some form of the ancient code directly into their constitutions. For example, Article 1, Section 27 of the Pennsylvania State Constitution says:

The people have a right to clear air, pure water and to the preservation of the natural, scenic, historic, aesthetic values of the environment. Pennsylvania’s public natural resources are the common property of all the people, including generations yet to come. As trustees of these resources, the Commonwealth shall conserve and maintain them for the benefit of all people.

In early American history the doctrine was used almost exclusively to protect the public’s interest in one very vital aspect of the commons: water. Just as Justinian had declared, navigable water, whether in the sea or flowing to it, was, along with shorelines, beaches and river bottoms, the common property of the nation’s citizens. Courts ruled that it was owned by everyone and no one at once, an unwritten easement protected by the water’s steward — the state. In the years that followed, American courts, state and federal, even the U.S. Supreme Court, upheld that interpretation.

The landmark public trust case occurred in 1892 when the U.S. Supreme Court held in *Illinois Central Railroad vs. Illinois* that a state legislature could not grant ownership of land under navigable water to a private party, in this case the railroad, which had been granted, fee simple, a thousand acres of shoreline and underwater land — the entire waterfront of Chicago.

Although water and shorelines have been the most frequent beneficiaries of public trust protection, the doctrine has become amphibious. Air, forests, public lands, natural beauty and cultural artifacts have recently been defended as common assets worthy of public trust protection. The open ocean, on the other hand, is con-







sidered a global commons, protected by the Law of the Sea and other international agreements. But there is a long ribbon of ocean water, 200 miles wide, hugging the coast of every continent, in which ownership rights and stewardship responsibility is still unclear.

The Law of the Sea Treaty, now signed and ratified by 158 nations, extends the boundary of all signatory nations 200 miles from their shoreline. The enormous wealth of oil, gas, minerals and food stuffs in and beneath the waters of these Exclusive Economic Zones makes the word “Economic” an appropriate part of their title — an invitation to commerce and development. The United States’ EEZ, which includes Micronesia, covers 3.4 million square miles, a larger portion of the earth’s surface than the country’s land mass.

President Bill Clinton signed the Law of The Sea Treaty in 1994, but in deference to ocean mining interests, which sought unimpeded access to the entire ocean floor, Jesse Helms, then Chairman of the Senate Foreign Relations Committee, refused to hold hearings that might have led to ratification.

There are other compelling reasons, strategic and environmental, not to ratify the treaty. So it may never happen. However, stewardship of the zone it created will certainly become a factor in the legal contest that awaits ocean fish ranching, as will the Public Trust Doctrine. Ratified or not, the treaty defines “EEZ” which applies to all nations, and is an area which the federal government clearly acknowledges by name in all its reports and studies, and will surely include in its draft legislation. If they don’t invoke the zone by name, and site the law of the sea as its creator, they risk losing all rights to it.

There is no question that the doctrine, as interpreted by courts in most coastal states, allows the private use of state owned public trust land and water for aquaculture within the three-mile limit. So long as the activity improves the public welfare and does not interfere with citizens’ enjoyment of the resources being used. Courts have also affirmed that “lands,” as defined by the doctrine, encompass the river bottoms and sea beds of navigable waters out to the three mile limit.

The U.S. Supreme Court has upheld Public Trust Doctrine four times in the

nation’s history, but in each case it has been protecting a state’s use of the doctrine. It has never claimed it as federal common law, which could apply in ocean waters beyond the states’ three mile limit. That doesn’t necessarily mean that the Public Trust Doctrine is not federal, it only means it has never been established as such. And just because courts have never applied the doctrine to the EEZ doesn’t mean they can’t.

### Closing Argument

As the Public Trust Doctrine has been used so effectively to protect public access to and the ecological integrity of American common assets, on and off shore, it seems imperative to invoke it in the EEZ. Here is how the case for a federal doctrine might be argued.

Because its legal system was built on British common law, which included the Public Trust Doctrine, the United States government held an implied public trust obligation over navigable waters in each territory until it was granted statehood. Each new state, upon entering the Union, assumed its own obligation over the same waters. But even after all territories had become states, the federal government still maintained public trust responsibility over oceanic shorelines until coastal state control was extended three miles from the shoreline by the Submerged Lands Act of 1953. The Law of The Sea Treaty did not exist, so the U.S. federal government controlled the next nine miles off shore, out to the 12 mile limit described by international agreement as the territorial waters of all nations. The rest was regarded as open ocean, open to all travelers and fishermen.

In light of this history it should be assumed that the federal government still bears public trust responsibility over navigable territorial waters — and the sea bed below them — between the three and 12 mile limits and now into the EEZ reaching out another 188 miles from the coast. If this is a fair assumption, then it would suggest that the Public Trust Doctrine, accepted by the original thirteen colonies without argument, and passed by federal permission to each new state, remains a U.S. government doctrine, at least as it applies to navigable federal waters between the three and 200 mile limits.

Federal courts have ruled that the Public Trust Doctrine does not apply outside “the territorial sea” but have not defined where territorial seas begin or end — at the three, 12 or 200 mile limits. If the doctrine is accepted as relevant and applicable in the EEZ, the specter of public trust rights will make it very difficult for NOAA or any agency to entice capital intensive sea farmers into the pelagic zone, because it would be so easy for environmentalists and other political opponents to defeat them in court. Aquaculture corporations will want stronger property rights than the government can legally offer them under the doctrine of public trust.

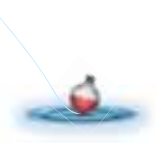
Opponents, including commercial fishers of wild stock, who are beginning to see themselves as the planet’s last hunter-gatherers, are expecting government litigants and their industry supporters to contest any mention or invocation of public trust in the open ocean. Meanwhile advocates of the commons see an inviting opportunity to affirm a federal Public Trust Doctrine that extends at least 200 miles off shore and use it to challenge the further privatization of what they call “the blue frontier.”

“When you fence off large parts of the sea you’re also taking on a responsibility for its protection,” says David Helvarg, President of the Washington, DC-based Blue Frontier Campaign. “Privatizing the frontier was a bad idea when Congress was selling off public lands to railroad trusts for pennies on the acre. It’s a worse idea today as we’re only beginning to explore and discover the true values of our nation’s largest public asset.”

Protecting any public resource from harmful commercial use enhances the benefits for all who seek access to it, particularly other commercial users. Thus the ancient common law notion of public trust, a doctrine which has been used so effectively over the centuries in defense of navigation, fishing, recreation and ecological integrity, should be tossed into the sea and allowed to drift at least 200 miles offshore in defense of a common asset we cannot afford to lose. **W**

Mark Dowie teaches science and environmental reporting at the University of California Berkeley Graduate School of Journalism.





# SAVING Klamath Salmon

By Regina Chichizola, Klamath Riverkeeper

»IN 2006 the Klamath Riverkeeper joined the native tribes and coastal fishermen of Northern California whose livelihood, sustenance and religious practices depend on the Klamath salmon. Our goal: to bring back the Klamath's diverse fisheries and restore the salmon.

Klamath salmon stocks are the cornerstone of the entire West Coast salmon fishing industry. The Klamath River is home to some of the last remaining runs of Chinook and Coho Salmon. It is also the last spawning ground for the massive green sturgeon, which lives up to 70 years and weighs up to 350 pounds. For every fish species in the Klamath, there is a culture that evolved with them. Now these fisheries are at risk.

In 2002, just one year after the Bush administration launched its 10 year plan for the river, 64,000 adult salmon died in the Klamath. In the years since, fishermen and tribes have been fighting for their livelihoods and their lives.

The salmon fishery in a 700-mile stretch of California and Oregon coastline is governed by the health of the Klamath River's salmon runs, which have been declining steadily since the 2002 fish kill. If Klamath numbers are lower than 35,000 salmon for more than a year, the state curtails the fishing season.

In 2006 salmon numbers were predicted to be only in the 20,000 range and the coastal fishery was closed. Hundreds were left jobless. Fishermen, tribes and the coastal towns that lost millions in revenue demanded emergency relief for the industry. When no relief came the coalition took action to fix the Klamath.

In a recent press conference announcing the 'Water for Fish' campaign, fishermen and tribes underlined the importance of the Klamath fishery. Dick Pool, campaign coordinator and owner of the Concord, CA-based tackle company, Pro-Troll, explained the reason behind the campaign, "Dams, diversions and mismanagement are leading to a massive fisheries failure in California," he said. "Fish and fishermen are being left out of water policy decisions of the state and federal governments."

Gordon Robertson, from the America Sport-fishing Association, underlined the economic importance of fishing in the U.S. and California, "Recreational fishing contributes \$116 billion to the



Fishermen rally in May 2006 to fix the Klamath.

KLAMATH RIVERKEEPER



Ron Reed, the Karuk Tribe's cultural biologist, fishing at Ishi Pishi Falls.

KARUK TRIBE



Traditional salmon bake on the Klamath River

KARI NORGARD

national economy each year while California sport-fishing contributes \$12 billion per year to the state's economy and supports 43,000 jobs."

Ron Reed, cultural biologist for the Karuk Tribe, said his and other Klamath Basin Tribes have been hurt dramatically by the decline in Klamath River water quality and fisheries. "The Karuk, the second largest tribe in California with over 3,000 members, caught only 200 salmon last year in our traditional dip net fishery. This impacts not only our health, but our culture and way of life."

However, Reed noted that it is not just the Karuk and other tribes and fishermen who are impacted, everybody is affected economically by fish declines. "Now is the time for all of us to come together," he said. "We can't solve the problem by single species management — we need to manage all of the species. If we don't restore the Klamath, we will not be able to save our fisheries."

Much of the fish disease stems directly from PacifiCorp's Klamath River dams, now owned by billionaire Warren Buffett. Scientific studies have shown the impacts of the dams and their connection to the Klamath River's many fish diseases. Of particular concern is the *Ceratomyxa Shasta* parasite, infecting and sometimes killing up to 80 percent of the juvenile Chinook salmon every year.

The parasite thrives directly below Iron Gate Dam. Behind the Iron Gate is a toxic algae problem of unbelievable magnitude — with levels 4,000 times more toxic than the World Health Organization's standard for safe recreational contact. Klamath Riverkeeper has joined with commercial fishermen and the Karuk Tribe to deal with the toxic water coming from the Iron Gate Dam.

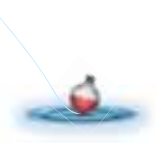
After the last two years of fishing shut-downs, "Fix the Klamath" and "Bring the Salmon Home," have become the rallying cries of the commercial fishermen, tribes and environmental groups, including Klamath Riverkeeper.

Predictions for this year's fall Chinook run show some short-term relief. Whole towns and tribal communities wait to see if they can survive another year with little ocean salmon fishing.

After years of struggle, the people of the Klamath are ready for change. Farmers, Native people, environmentalists and fishermen are all talking. Agencies are starting to think about the impending extinction of many of the Klamath's diverse species. The public is demanding healthy wild salmon.

The removal of the Klamath dams is just the beginning of the restoration of the Klamath salmon and fisheries. In the next year, the fate of these dams and the Klamath Coho in the Klamath's tributaries will be decided. With this decision lies the fates of the cultures and economies of the Klamath basin. Klamath Riverkeeper and our many partners and supporters will be there. **W**





# Playing HOOKY

By Shenandoah Riverkeeper Jeff Kelble  
Photos by Shenandoah Riverkeeper

▶IT WAS 1999, and from the middle of the Potomac River below Harper's Ferry, West Virginia, I had spotty reception on my cell phone. This is where several hundred million years ago a giant flood broke through the Blue Ridge Mountains and cut a path that emptied a sea whose bottom we now call the Potomac Highlands. Here, the historic Shenandoah River joins the Potomac; at times its flow pushing up the Potomac, at other times being pushed, all depending on where the rain fell.

Giant tombstone ledges of granite cross the river, holding pools of water back only to flow through cuts hammered out by floods. These are some of Potomac's mightiest rapids. With names like Mad Dog and White Horse, they rumbled in the background as I tried to continue doing sales business. I was playing hooky from my job, because the smallmouth bass fishing through here was incredible and I couldn't stay away. An awesome population of smallmouth bass was growing up that year, just the strongest fish in the system, those that survived the two floods in 1996.

I became a regular fixture of the river during the work week, as my interest in selling things was dying and I was being reminded that I had grown up on rivers, and that's where I felt best.

It wasn't long before I began meeting guides from Mark Kovach Fishing Services. Men rowing whitewater rafts through these waters with fishermen attached to swivel seats, fishing as they floated, came by every day like clockwork. I was fascinated and I didn't hide it well, because before long I was

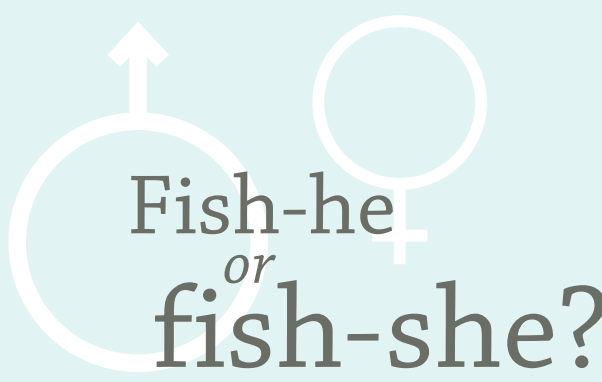


being taught to row one of these things by a retired tobacconist, John Hayes — also fishing guide, storyteller and big laughter.

Bull Falls on the Shenandoah River

Overnight I was hooked and began taking clients out on the nation's river the next spring. Among the guides was Butch, a full time car salesman; Mark, a defense contractor; Dave, a middle school teacher and gifted writer; Rick, who worked in IT; and Mark Kovach, the original handlebar-mustached fishing guide. They were all doing the same thing that I was, feeding their souls by taking people fishing.

By spring of the next year, now with my own boat, I needed to see more of the Mid-Atlantic's rivers, so I started Playing Hooky Guide Service. Over the next seven years I twisted and turned my boat along dozens of rivers laid out in more than 100 different floats. I don't know how many fisher-



That's the question that residents of the DC metropolitan area are asking themselves about the fish in the Potomac River. Around the nation's capital male fish are developing ovaries in their reproductive organs. The condition — known as intersex fish — is linked to hormone disrupting chemicals from animal

waste, insecticides, cosmetics and medicines in our waterways. These chemicals are taking a toll on the fish — and until we know for sure — who is to say that they are not taking a toll on us?  
In October, Potomac Riverkeeper Ed Merrifield testified before the U.S. House Committee on Government Reform

and urged Congress to act before the problem became even worse. Merrifield described the chemicals causing the mutations, the dangers to human health and EPA's slow response to the matter. "In the long run," he warned, "keeping these chemicals out of our rivers and streams is what matters."





## NY/NJ Baykeeper Andy Willner and blue fish

In late summer 2006 on patrol along the South Shore of Staten Island I noticed some birds working hard on some bait fish near the surface. I knew there was a fishing rod somewhere on the boat. It was a four piece, very light rod, with even lighter line. I also found a rusty lure, tied it on and quickly cast into the middle of the turmoil. Immediately, I felt a huge hit, set the hook and let the line run out almost its entire length. The next 20 minutes were as much fun as I ever had fishing. When I finally got the fish along side, it was a monster. I got the fish on board, Rick Jacks took the picture and we let the beast go to hunt some more. I went home with the picture and bragging rights.



Author Jeff Kelble and comfortable passenger.

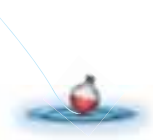
men watched the back of my head while I rowed as I tried to see around their buddy in front of me. We were all after that mystical giant smallmouth.

Soon I knew all the faces. The jokes were familiar and I found myself on the Shenandoah River more than anywhere else. Something was different about this river, its waters green tinted and clear, thick with sweeping star-grass, bugs and fish. A river whose floor was bed-rock and permanent, running along the base of the Blue Ridge Mountains; bouncing though the Shenandoah Valley between the Allegheny and the Blue Ridge ranges. Pushing boulders along that used to ride ridge tops and pulling trees that used to hold its banks together before the floods. The river pushed through history and pulled me in. This valley became my family's home. It wasn't until later when I began building my bed and breakfast that I learned my family farmed the Shenandoah Valley 250 years before — living off the land and its waters.

For thousands of years the river has been the focal point of settlement for indigenous people with stone suitable for cutting points, rich soil for agriculture, flourishing wildlife and a river that ran heavy with fish. Few miles pass while floating the Shenandoah where you don't see evidence of ancient V-shaped fish structures first cut into the stone thousands of years ago. These ancient V's concentrated fish through passageways where they were speared or corralled into baskets. Even today in our highly technological age, rods and reels are as sophisticated as we've gotten.

Sadly, the Shenandoah River no longer supports the renowned population of fish that once helped me earn my living. Historically bountiful populations of at least one native fish are nearly gone because of years of fish kills. So in 2006 I closed my guide business to become the Shenandoah Riverkeeper. Fixing the river is going to be complex. But already I've brought my first lawsuit against one major polluter, and in many senses, already won. The list of polluters is long, but I have only just begun my work. **W**





»YEARS AGO, I remember going out with my grandfather to fish for shrimp with *atarralla*, a type of fishing net. We used to catch up to 150 or 200 kilograms of shrimp. We would go to the beach and fill up entire sacks by hand. Today, there are 20 to 25 fishermen who have dedicated themselves to catching shrimp with *atarralla*, but they do not catch more than eight to 10 kilograms in a day. Similarly, other fish, like clams, blue crabs and mollusks, have become scarcer in Bahía Magdalena.

Seventy percent of the population of Puerto San Carlos depends directly on fishing in Bahía Magdalena. The area is rich with seafood, but in recent years it has been overexploited. It is our interest to promote responsible fishing and to protect the bay from the industrial and domestic pollution that threaten it.

When I started fishing in 1991, fishing was a wonderful experience in every sense. Back then, we could catch enormous amounts of lobster, shrimp, abalone and fish. But today, fishing has declined because of over fishing. In the last five years the population of San Carlos has grown exponentially. People come from other parts of the country to try to survive, but this limits the amount of resources available per person. Today, the signboard to the entrance of the community hasn't been changed, it says population 3,000, but the reality is probably 11,000.

We need responsible fishing, good regulation and strong enforcement. So far, planning and conservation efforts have been weak. But people trust us, they believe in the objectives of Magdalena Baykeeper. We are filling a void in the community for the good of our bay.

»HACE AÑOS, recuerdo salir con mi abuelo a pescar camarón con atarralla (un tipo de red). Solíamos capturar hasta 150 o 200 kilogramos de camarón. Ibamos a la playa y llenabamos sacos enteros a mano. Ahora hay entre 20 y 25 pescadores que se dedican a pescar el camarón con atarralla y capturan solamente entre ocho y 10 kilogramos en un día. Pasa lo mismo con los otros pescados, almejas, cangrejos azules, moluscos, todos se han vuelto muy escasos en Bahía Magdalena.

Setenta por ciento de la población de Puerto San Carlos depende directamente de la pesca en Bahía Magdalena. El área es rica en mariscos, pero en años recientes que han sido sobre explotada. Es nuestro interés promover la pesca responsable y proteger la bahía contra la contaminación industrial y doméstica que la amenazan.

Cuando comencé a pescar en 1991, la pesca era una magnífica experiencia en todos los sentidos. En ese entonces, podíamos extraer grandes cantidades

# Pescador Waterkeeper

By Julio Solis, Guardaguas Bahía Magdalena/Magdalena Baykeeper



CHRIS PRESENTI

de langosta, camarón, abulon y pescado. Pero hoy, la pesca ha disminuido debido a la pesca excesiva. En los últimos cinco años la población de San Carlos ha crecido exponencialmente. La gente viene de otras partes del país para sobrevivir, pero esto limita la cantidad de recursos disponibles por persona. El letrero a la entrada de la comunidad no se ha cambiado, anunciando una población de 3.000, pero la realidad es probablemente 11.000.

Necesitamos la pesca responsable, necesitamos la buena regulación y la aplicación fuerte de la ley. Hasta ahora, los esfuerzos del planeamiento y de la conservación han sido débiles. Pero la gente confía en nosotros, creen en los objetivos del Guardaguas de Bahía Magdalena. Estamos llenando un vacío en la comunidad por el bien de nuestra bahía. **W**





# Accessing the Kaw

By Kansas Riverkeeper  
Laura Calwell

»IN THE late 1800s Abe Burns and his friend Jake Washington used to ‘noodle’ for catfish just below Bowesock Dam, a stone dam constructed on the Kaw in 1874. After fastening a large hook to a board, they would tie the board to their arm and plunge underwater, searching holes below the dam where large cats liked to hide. When they found a big cat they gaffed it with the hook and brought it to the surface. One day, Abe hooked on to a cat that was far too big for him to handle. Neither Abe nor the catfish surfaced until several days later when both he and the fish were found downstream — still hooked together.

Noodling is now illegal on the Kaw. But safe, responsible access to the Kaw is a public right. Public access and recreational use of the river is essential to its protection. Simply put, unless people get out in the water, they aren’t going to understand and appreciate what they have.

Nevertheless, for a long time, public boat ramps were so limited that boating on the Kaw was rare. Some fished from the banks of the river, but only those willing or able to maneuver their boats through the muddy, undeveloped access points — mostly under bridges — were able to get onto the river.

The state recognizes the Kansas River as one of the state’s only three publicly navigable waterways,



Bill and Norman Cross catch & release a 65 pound Blue Catfish on the Kaw in April 2004.

The Kansas River runs over 171 miles of prairie from Junction City to Kansas City. Affectionately known as the Kaw, it is a shallow, sandy bottomed river with deep holes — habitat loved by Blue, Channel and Flathead Catfish. Catfish stay in the holes during the day and venture to the shallows to feed after dark. The Kansas state record Blue Catfish — 94 pound — was caught here.



DOUGLAS COUNTY HISTORICAL SOCIETY, LAWRENCE, KS

Abe Burns (on the left) and Jake Washington in 1895 showing off their day’s catch of a 90 and a 110-pound Blue Catfish (before state records were documented).

along with the Arkansas and Missouri Rivers. Their tributaries are considered private property and are closed for recreational purposes. Although this is a violation of the Public Trust Doctrine, there has been little complaint. After 1951, when a Kansas River flood devastated Kansas City, reservoirs were constructed on the river’s tributaries to prevent the river from deluging nearby cities. The reservoirs, complete with fishing, sailing, water-skiing, picnic areas and camping grounds, are in part the reason why the Kaw and its tributaries have been overlooked for their recreational potential.

Since 2003, Friends of the Kaw and Kansas Riverkeeper have been working to reopen public access to the river. That year, Mike Calwell, the kingfish of Kansas Riverkeeper’s access projects, received a grant from the Federation of Fly Fishers to work with a local community — St. George — to construct the first access ramp along the Kansas River in 20 years. Since then, the Kansas Riverkeeper’s quest for open access has snowballed. With four access points completed and two more on the way, state and county governments and even communities along the Arkansas River are following our lead. Our dream of a public access ramp to the Kaw every 10 miles is almost a reality. Although there’s no more noodling, we believe that Abe and Jake would be very happy to see people back on the Kaw, fishing. **W**





Author Ben Williams is a board member of St. Johns Riverkeeper.

When you harvest seafood for a living, it becomes quite clear that if the underlying environment is not healthy, your economic prospects aren't going to be healthy either.

# River Shrimp

By Ben Williams

»OVER THE years the question has remained the same, "Are those river shrimp?" But the reason for the question has changed. Almost 30 years ago, when I first worked in a fish market, the customers wanted river shrimp. They knew that shrimp from the river had a different texture and a slightly different taste to them. The customer didn't know that what they called river shrimp were actually juvenile Atlantic White shrimp or that the slightly different taste and texture was the result of the shrimp living in, what was many times, almost freshwater. They just knew they liked them.

Today our customers will ask the same question, but for a significantly different reason; they don't want river shrimp. They're skeptical of the safety of

river shrimp. They're skeptical of any seafood coming from our river.

That's a sad thing, for our St. Johns is still a magnificent and productive estuary. It nurtures not only shrimp but many other commercially valuable fish and crustaceans. Just as importantly though, our river also nurtures and sustains the fisherman who have traditionally, and sustainably, harvested them for our tables.

Having been a commercial fisherman, and for the last 25 years worked in and owned fish markets, it's been clear to me for a long time that if we are to sustain, not only the fish and shrimp and crabs, but the fisherman who harvest them, then we need to protect our river. When you harvest seafood for a



living, it becomes quite clear that if the underlying environment is not healthy, your economic prospects aren't going to be healthy either.

It was with that understanding that I drove down to the University of Florida's Whitney Lab in Marineland one evening seven or eight years ago. I didn't know exactly what a Waterkeeper was but I knew that the existing environmental efforts, some of which I had been a part of, had not been very effective in protecting our river. That first organizational meeting was not overly encouraging. As we all know, when you put recreational fisherman, commercial fisherman and an environmentalist together in a room there is

a certain initial tension, and in that little room it was tense.

Fortunately though there were a few folks in that little room who saw the big picture and understood what needed to be done. The birthing process was painful, but successful. St. Johns Riverkeeper emerged. Over the years we've managed to stay focused on our mission: clean and healthy waters in the St. Johns River.

And it's that vision that brings me back to the question, "Are those river shrimp?" Our job is to turn back the clock on that question so future generations will reap the benefits of a healthy St. Johns River. **W**

# Fishable Waters, Edible Fish

By Zeke Grader,  
Executive Director  
of the Pacific  
Coast Federation  
of Fisherman's  
Associations, and  
California Coastkeeper  
Linda Sheehan

» IN CONGRESS' final hours in 2006, it reauthorized the nation's primary fishery statute — the Magnuson-Stevens Fishery Conservation & Management Act. This law asserts U.S. jurisdiction over a vast body of water stretching from 3 to 200 miles offshore and establishes federal fishery management authority.

This action was hailed by the Bush administration, members of Congress, fishing groups and the

two national ocean commissions as a major step forward. The law ensures a more scientific approach to fisheries management in the ocean and sets a firm deadline to end over fishing.

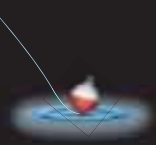
Despite the hoopla, however, serious problems remain in the effort to ensure an ample supply of fish in ocean waters. Laws, after all, are just words unless there is the political will and funds available to implement and enforce them. The Magnuson-Stevens Act, which is a 20-year old law, already had a prohibition on over fishing that was not adequately enforced. Congress and the administration fail to spend the money needed for fish population research and enforcement, making it difficult, if not impossible, to establish seasons and quotas for sustainable fishing.

And a huge gap in federal protection remains: no law takes a comprehensive approach to making sure there are not only enough fish, but that the fish are also safe to eat. If we are to have fishable waters and edible fish, we will need to invoke the Magnuson-Stevens and Clean Water Acts, plus state laws that regulate polluted runoff, a major source of fish contamination that the Clean Water Act virtually ignores. A close collaboration of Waterkeepers and fishermen in this effort will preserve this nation's great fishing heritage and access to a healthy bounty from our waters. **W**



MASON HUSTON





# Seafood Consumption Advisory



JASON HOUSTON

»RESPONSIBILITY FOR monitoring the safety of our fish and shellfish falls to the states. Forty-eight states, the District of Columbia and America Samoa have fish advisories in place — warning the public to limit or avoid the fish caught in their waters because of contamination. In 2003, 92 percent of the Atlantic Coast and 100 percent of the Gulf Coast were under advisory. On the Pacific Coast states do not issue statewide advisories, but Hawaii has issued a statewide advisory for marine fish.

## Don't Look, Don't Tell Policy

Fishermen and fish consumers across the country are not being supplied with the information they need to make educated choices about the fish they eat. Meanwhile, EPA looks on while the states do away with their monitoring programs and public fish consumption guides.

## Mercury Rising

Six hundred and thirty thousand infants are born each year with unsafe levels of mercury in their blood, according to U.S. EPA and Centers for Disease Control. Forty-four states have statewide mercury fish advisories. The largest emitters of airborne mercury in America are the 1,100 coal burning power plants that spew roughly 50 tons of mercury each year, poisoning our nation's lakes, rivers and streams, fouling our food supply.

## In 2004 FDA and EPA issued a joint consumer advisory about mercury in fish and shellfish. Their advice:

Fish and shellfish are important parts of a healthy and balanced diet... However, depending on the amount and type of fish you consume it may be prudent to modify your diet if you are: planning to become pregnant; pregnant; nursing; or a young child. With a few simple adjustments, you can continue to enjoy these foods in a manner that is healthy and beneficial and reduce your unborn or young child's exposure to the harmful effects of mercury at the same time.

Specifically:

1. Do not eat Shark, Swordfish, King Mackerel, or Tilefish because they contain high levels of mercury.
2. Eat up to 12 ounces (2 average meals) a week of a variety of fish and shellfish that are lower in mercury.
  - Five of the most commonly eaten fish that are low in mercury are shrimp, canned light tuna, salmon, pollock, and catfish.
  - Another commonly eaten fish, albacore ("white") tuna has more mercury than canned light tuna. So, when choosing your two meals of fish and shellfish, you may eat up to 6 ounces (one average meal) of albacore tuna per week.
3. Check local advisories about the safety of fish caught by family and friends in your local lakes, rivers, and coastal areas.



# Fisheries Act Under Attack

By Krystyn Tully,  
Vice President,  
Lake Ontario  
Waterkeeper

▶ THIS SPRING, Canadians will decide the future of the nation's most powerful, most important environmental law — the Fisheries Act. When the dust settles, Canadians may be left with one of the most effective, protective water laws in the world. Or short-sighted, rushed decision-making may rob Canadians of the best tool we ever had to safeguard our waterways, our fisheries and our communities.

The Fisheries Act is nearly 140 years old. It shapes the Canadian fishery, influencing who gets to take fish from what areas, how much and under what conditions. It also prohibits the destruction of fish habitat and the pollution of waterways. The pollution prevention rules, added a little more than 30 years ago, are the rules that Waterkeepers live by. And they are under siege.

Today's Fisheries Act says that no one can put toxic substances into waters where there are fish and no one can destroy fish habitat without government authorization. Offenders can be tried in criminal court and face fines of up to one million dollars a day or jail time if they are convicted. The rules that clarify how the law is enforced have been established by various courts through years. The standards are clear, they apply equally to every polluter and they equally protect every waterway in the country.

Today's Fisheries Act encourages citizens to protect their local waterways. Anyone who has evidence that an offence is being committed can prosecute the polluter in court. This right is an important protection against government inaction. It is one of the hallmarks of the Canadian justice system.

The Fisheries Act is not perfect. The federal government has used it to write regulations exempting mining and paper facilities from adhering to environmental standards. It takes time, money and good lawyers to win a Fisheries Act case in court. Historically though, the Fisheries Act has been the best — and possibly only — national tool that Canadians can use to hold polluters accountable, win back lost fisheries and ward

against new threats to our waterways. Investigations and occasional prosecutions of Fisheries Act offences have led to cleanups of contaminated sites across the country. One conviction often leads to the cleanup of an entire industrial sector, because the national law sets a bar that protects every community. Desire to comply with the Fisheries Act motivates industry and developers to protect fish habitat and clean water.

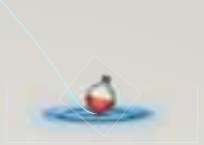
A new version of the Fisheries Act, now being rushed through Parliament, threatens to take away Canadians' right to clean waters and healthy fish. This proposal is a complete overhaul, eliminating the most important protections for citizens' right and our waterways. Gone is the rule that says a community will participate in an environmental assessment if fish habitat is to be destroyed. Gone is the rule that ensures at least one-third of every river is always unobstructed. Gone is the rule that says ships can't sweep coal ashes into our waterways. Gone are the key definitions that prohibited the deposit of deleterious substances — pollution — into Canadian waters.

The proposal takes environmental protection away from citizens and independent courts and concentrates power in the minister's office. It abandons rule of law in favour of ministerial discretion, politicking and lobbying. The proposed new Fisheries Act would abandon fish, and protect corporate interests through grants, loans, and insurance programs. It also offers up a new, softer response to serious environmental crimes by allowing "alternative measures agreements" to replace guilty pleas and criminal records — an approach that is radically different from this government's other crime policies.

Canadians rely on a strong Fisheries Act to protect our waters, our traditions and our communities. For the first time in years, the federal government is focused on one of the country's most pressing issues. But corporate lobbyists and large industrial polluters are steering the ship. It leaves us asking, why? And gearing up for a fight. **W**

Early morning overlooking the Ottawa River and Parliament Hill in Ottawa, Canada.





# » the way FORWARD

JASON HOUSTON

**With a river, it's use it or lose it.**

Polluters assume possession of a waterway when people stop swimming and boating, catching and eating the fish. The public perception that a waterbody is 'dead' is a self-fulfilling prophecy. With the public off the water, government officials can downgrade protection and use the waterway as a sewer. The law is clear, but law enforcement is weak. Citizens must stay on the water to exercise their rights as owners and stewards of our waterways.

So get out there. Assert your ownership. And enjoy. **W**



# Teach Wealth

By Nick Vos-Wein, Hackensack Riverkeeper Project Manager

» HACKENSACK RIVERKEEPER'S Urban Watershed Education Program teaches middle school students how to fish. And through fishing, the students experience the wealth of a personal encounter with their local waterway.

We use games to teach kids about the fish that live in their local river or lake. Students conduct a cleanup of their school grounds and affix a permanent marker to stormdrains that reads, 'Don't Dump. Drains to Your River.' They get on the water with Hackensack Riverkeeper Captain Bill Sheehan and try their hand at water quality testing. The final morning is spent learning to cast. Then they spend the day fishing. For many, this is their very first time holding a fishing rod.

Over the past decade, we have reached thousands of young people. Kids who live in an environment too often defined by pavement and

concrete learn that no matter where they live, they are connected to nature. They just need to get out on the water. [w](#)

Riverkeeper-trained fisherman shows off his catch at Wilson Pond in Linden, NJ.



HACKENSACK RIVERKEEPER

## Sky Sight

This January, 850 students from H.B. Lee Middle School in Portland, Oregon became a sturgeon for an hour to conclude the Art For the Sky project, sponsored by Columbia Riverkeeper. Art For the Sky combines art, music, math, history and science and culminates in a gigantic living painting on the school's athletic field colored and shaped by the living forms of participants.



DANIEL DANGER





# Go Fish

By Dr. Jack A. Mills, Jr.



“Jack Mills is our best set of eyes on the river, reporting problems and violations from poor logging operations to tire dumps.”

*Michael William Mullen,  
Choctawhatchee  
Riverkeeper*

»MY FIRST recollection of fishing was digging. After about an hour or two, my father and I might be lucky enough to find 75 to 100 worms. Then, to the river to find a nice eddy hole with no branches overhead so we could flip our lines, hook and sinker, in hopes a fish would spot the worm.

This was in the middle 1930s. Most of the fishing was from the banks or wading. The few boats that were used were moved by paddles or oars. Once in a while you could hear a motor putting up and down. There were fewer gators then, more beaver and deeper channels. In the summers after school was out daddy would take me on an all day trip on the Choctawhatchee down in Florida. We would leave before daylight, get home after dark. And hopefully dress a big mess of fish before bedtime. In 1940 my father purchased our first outboard motor, a Johnson 5 HP.

In 1944 I made my first overnight float trip from Clayhatchee to Geneva with my long-time friend Joe Watson. We cast artificial lures during the day and set hooks at night. We caught fish like you wouldn't believe, at least it seems that way now. I think the fishing on the river has always been good. It is just as good now, of course it varies as to the capability of the fisherman.

The biggest change in fishing is technology. Better poles, reels and rods, plastic lures. My favorite lures in the 1950s and 1960s were Hawaiian Wigglers, Lucky 13's, inline spinners (preferably yellow) and, of course, I still fish worms and crickets. I've found that the very best fishing times are in spring and fall — fall especially after hunting season begins when there are fewer folks on the river!

All in all — the fish are still there. It's up to you to go catch them. So go fish the river! **W**



Fishing New York Bay

ANDY WILLNER



# Fishing to See

By Jason Houston

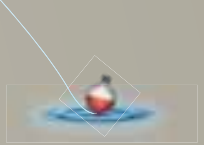
» I DON'T fish to catch fish. I go out when I think there will be fish around. I choose rivers that I think will have fish in them. I do my best to understand the biology and ecology of the hunters and the hunted. And I have been accused of carrying around that silly grin fishermen get after they catch a fish. But I don't fish to catch fish.

I fish to see things differently. I am a photographer and photography informs everything I do — except fishing. Waist deep in the current, methodically, repeatedly — maybe obsessively — slinging my line and squinting at the passing riffles, I experience the world not as stills, but for the fluid, delicate, ever-changing thing it is.

Fishing is a way of experiencing the incomprehensively complex relationship between fish, water, light and insect — one I appreciate and try to participate in, but don't feel the need to try and fully understand. Even the best fishermen, really, only luck into catching fish. w

Photographer and fly-fisherman Jason Houston fishes the tiny Green River in his hometown in Western Massachusetts.





# IN THE News

Everyday Waterkeepers are covered in the press – here are some Waterkeeper stories from January 2007

## Ice Forces Tanker From Nikiski Dock

*Anchorage Daily News* — Anchorage, AK

“Some apologists might argue the system worked because the tanker didn’t end up on the beach again,” said Cook Inletkeeper Bob Shavelson. “But any time you have an oil tanker forcibly removed from its berth, it’s clear to most reasonable people there’s a serious problem.”

## Regulatory Gap Stifles Pollution Control

*Voice of San Diego* — San Diego, CA

“Every action you do, it has a ripple effect. We tend to look at these things in boxes, and they’re not,” said San Diego Coastkeeper Bruce Reznik.

## Extending Marine Reserves Must Be Done Thoughtfully

*The Argus* — Fremont, CA

California Coastkeeper Linda Sheehan notes this proposal is “an essential part of the puzzle” for restoring the health and size of fish.

## Problem Line Sees Surge Of Sewage

*Wilmington Morning Star* — Wilmington, NC

Cape Fear Coastkeeper Mike Giles said the surging flow numbers show how ineffective the actions by the state and local governments have really been.

## Land And Sea

*The Santa Barbara Independent* — Santa Barbara, CA

A rollaway dumpster was filled to the brim last week after members of Santa Barbara Channelkeeper confronted San Pedro Creek in Goleta with trash bags in hand.

## End Of Year Storm Provokes Beach Health Advisories

*Malibu Times* — Malibu, CA

One local teenage resident was not worried about the possible hazards presented by storm runoff into the ocean. “Oh, yeah. They always have that sign up. Nobody pays any attention to it.” He declined to give his name, saying, “My mom is into the Baykeeper, so she wouldn’t want to see my name in the paper.”

## Brayton Point Files Last-Minute Appeal

*Fall River Herald News* — Fall River, MA

“We have got to get this solved as soon as possible,” said Narragansett Baykeeper John Torgan. “The corporation has chosen a path of endless appeals, which is of great concern to us because these delays continue to damage the bay further.”

## Sewage Spills Garner \$2.5 Million In Fines

*The Log Newspaper* — Irvine, CA

Santa Monica Baykeeper Tracy Egoscue said her organization is happy the issue didn’t reach the courts. “This agreement puts over \$2 million into water qual-

ity research and education,” she said. “Instead of hiring attorneys, we will be studying water pollution and teaching Angelinos on what we must do to make our rivers and beaches safe.”

## Osprey Nest: If They Build It, Will They Come?

*Holmdel Independent* — Holmdel, NJ

According to NY/NJ Baykeeper Andy Willner, in the not so distant past ospreys were often seen nesting in the borough. But today, he believes there are no ospreys nesting or mating in Keyport. “The osprey pair that was nesting [here] moved right across the harbor to Aberdeen,” Willner said.

## Transport Meeting Aimed At Public Participation

*Mobile Register* — Mobile, AL

“If you are interested in where roadways will go, how they will be built and the plans involved in building them, you need to come and let the officials hear your thoughts,” said Mobile Baykeeper Casi Callaway.

## New Discharge Permit Hinges On Controversy

*Toledo Blade* — Toledo, OH

Western Lake Erie Waterkeeper Sandy Bihn said she recognizes the intake is separate from the discharge permit. But she wonders if the warm water discharged into the bay contributes to the proliferation of microcystis and other forms of blue-green algae that have



re-emerged almost annually in western Lake Erie since 1996 after nearly a 25-year absence.

## Klamath Riverkeeper Wants Klamath Hatchery Cleaned Up

kgw.com — Portland, OR

Klamath Riverkeeper Regina Chichizola has sent a 60-day notice of intent to sue under the Clean Water Act.

## Down The Drain

E/The Environmental Magazine — Norwalk, CT

“The issue is non-point source runoff from our homes and streets,” said Long Island Soundkeeper Terry Backer. “It ends up in Long Island Sound, and it affects public health.”

## County Finally OKs Comp Plan Update

EmeraldCoast.com — Sandestin, FL

The Apalachicola Riverkeeper’s Dan Tonsmeire urged commissioners not to wait until 2007 to make comprehensive plan changes regarding water access, wetlands protection and affordable housing, but to delay enacting this comp plan update for four to five months until those items could be incorporated in this go-around.

## Exxon Mobil’s Biggest Oil Spill? Look In Brooklyn, Not Alaska

Bloomberg — New York, NY

“There are people who live above this that still don’t know about it,” said Basil Seggos, chief investigator for Riverkeeper.

## Environmentalists’ Hopes Raised

Baltimore Sun — Baltimore, MD

“Our elected officials have to listen to us, and I think that is reflected in this decision,” said West and Rhode Riverkeeper Bob Gallagher.

## Farms Might Face Lawsuits

York Daily Record — York, PA

Lower Susquehanna Riverkeeper Michael Helfrich said the ultimate goal is to protect the river from being contaminated with manure runoff.

## Bottom-Feeding Fish Still Not Safe For Consumption

Lawrence Journal World — Lawrence, KS

Despite the decline in some levels of chemicals in the river, pollution is still a major concern, according to Kansas Riverkeeper Laura Calwell. Intentional dumping is a problem up and down the river, she said.

## Citizens: Back Off The Marshes

Savannah Morning News — Savannah, GA

“Lots of what we see here is not rules but guidelines or suggestions,” said Linda Smith, who represented the Ogeechee-Canoochee Riverkeeper. “They have too many outs and loopholes. If I sit a child in front of a plate of donuts and a plate of spinach and suggest he eat, what do you think he’s gonna do?”

## State OKs Disputed Transfer From Catawba

Tryon Daily Bulletin — Tryon, NC

“It’s a black day on the Catawba,” said Riverkeeper Donna Lisenby after hearing the decision. “The opportunity for a regional solution, collaboratively reached, is over.”

## Indian Point Nuclear Plant In Fishy Controversy

WCBS-TV — New York, NY

“It’s far, far too early to be alarmist,” said Lisa Rainwater, Indian Point Campaign director for Riverkeeper. “But what we’re looking at now, if it’s in the fish, that means it’s also been contaminating the soil, the sediment, the plankton.”

## Klamath Riverkeeper To Sue PacifiCorp

Bizjournals.com — Charlotte, NC

Klamath Riverkeeper on Wednesday filed a 60-day notice of its intent to sue PacifiCorp, claiming the utility is polluting Klamath River.

## ‘Salt Marsh Soldiers’ Clean Up, Study And Promote Wetlands

Florida Times-Union — Jacksonville, FL

The students have gained insight into wetlands ecology from experts such as Altamaha Riverkeeper James Holland.

## Water, Water, Everywhere... But Is It Clean Enough To Drink?

NC State University Technician Online

— Raleigh, NC

Upper Neuse Riverkeeper and State

alumni, Dean Naujoks enforces legislation to keep Falls Lake clean enough for consumption.

## Unsolved Mystery: Styrofoam In The Hudson

Mid-Hudson News — Newburgh, NY

Riverkeeper has teamed up with Metro-North Railroad and others in an effort to find out how the material got there.

## Groups Say More Funds, Action Needed For AL Waterways

Times Daily — Florence, AL

Black Warrior Riverkeeper Nelson Brooke said much more could be accomplished with adequate funding.

## Lawsuit Settlement Sends Message To Developers To Obey Law

Emediawire — Ferndale, WA

How do you keep a river healthy? Answer: you have to keep the streams that feed it free flowing and clean. And that is just what the Georgia Center for Law in the Public Interest – representing Ogeechee-Canoochee Riverkeeper and Altamaha Riverkeeper – has done by negotiating a settlement in their lawsuit filed against a Swainsboro developer in United States District Court.

## Groups Claim Victory In Power Plant Fight

Poughkeepsie Journal — Poughkeepsie, NY

“This historic decision validates what the environmental community has been saying for decades,” Hudson Riverkeeper Alex Matthiessen said in a statement. “The Clean Water Act requires use of the best technology available. By ignoring that requirement EPA has thwarted the will of Congress and repeatedly failed to protect fish and wildlife from needless devastation at the hands of power plants.”

## Environmental Groups Hope To Halt Cement Plant’s Switch From Coal

CBC Ottawa — Ottawa, Ontario, Canada

They haven’t proved it won’t have negative ramifications yet,” said Mattson, president of Lake Ontario Waterkeeper. **w**

# WATERKEEPER # 4

"Court Acquiesce"

At a state courthouse, four months after the incident in Kaitian Bay --

-- An attorney, Baykeeper and demigod witness is do battled

WELL, SUDAN CORPORATION HAS PUT US OFF FOR AS LONG AS THEY COULD --

-- THIS MAY BE THE FIRST TIME A REFUSE MONSTER HAS FACED PROSECUTION UNDER THE LAW.

NOW ALL WE'VE GOT TO WORRY ABOUT IS THAT OUR STAR WITNESS IS WEARING A SEAWATER MONOMINI!

GOOD POINT, FLY.

GANYMEDE -- CAN'T YOU PUT THAT THING OUT?

NOT IN A THOUSAND YEARS.

OKAY, LET'S KEEP OUR EYES OPEN, GUYS -- THOSE SUDAN BOYS PLAY ROUGH.

JUST DO YOUR JOB, EUGENE. LET US WORRY ABOUT DIRTY TRICKS.

"SHORT" FOND SOAK.

SO WHO'S THE SUBMARTINER, SWAN? ONE OF YOUR --

WIKKI!

HARRASSMENT!

C'MON SHOULDERS -- WE'RE GOING TO TAKE SOME POLLUTERS TO SCHOOL TODAY.

Lifeem...

IN THE MATTER OF BAYKEEPER VERSUS SUDAN INCORPORATED -- COUNSELOR, MS. SWAN, WHAT DO YOU TWO HAVE FOR ME THIS TIME?





## CHAPTER SIX

## A Great Team

By Rebecca Northan



Kai took the silver hand-shackles out of Sirena's hand and examined them. The craftsmanship was exceptional. They appeared to be in relatively new condition and next to the keyhole was engraved a coat of arms depicting a simple shield supported on either side by a lion and a sea serpent.

"I recognize this mark," Kai exclaimed, running his thumb over the engraving, "It's the King's emblem!"

Sirena's brow furrowed. "That doesn't make any sense Kai. King Cadassi is sworn to protect the lands and peoples of the realm, why would he be involved with the disappearance of my family?"

Kai sat back at the edge of the cave's freshwater pool where Sirena continued to bob gently, fixing him with an imploring stare. He ran a hand through his hair as he tried to make sense of everything that had happened in the last few days. The Great River had been poisoned, killing fish and vegetation all along its banks, leaving everyone who depended on Her desperate for drinking water and sustenance. Mysteriously, the Waterkeeper had yet to make an appearance and set things right. And now, Kai was faced with yet another complexity – a mermaid whose family seemed to have been kidnapped by someone from the King's guard. Kai leaned down and took a long drink of clean water and then splashed some into his face.

"Well, Kai?" Sirena prodded, "What are we going to do?"

Kai felt lost. "I don't know Sirena. I never expected any of this. When I left my village I thought finding the Waterkeeper would be easy – but the

farther I travel, the more confusing all of this gets. Maybe I should head back, get my father to help...I'm not sure anymore."

Sirena reached out of the water and gripped Kai's hand tightly. "Kai, if you go back now you'll only waste precious time! Think about it. The more time you spend traveling back to your people – the longer the Great River will remain fouled, and who knows where my family, or the Waterkeeper might be by then?"

"But I'm just a child!" Kai exploded. "Maybe I was wrong in thinking that I was old enough to take on such a task. I should have left this to a grown-up to take care of."

"Listen to me Kai," Sirena soothed, "Your Noni and the people of your village trusted you enough to set out on your own – they *believe* in you, and so do I. Besides, it's not like you have to do this on your own anymore – I'm coming with you."

"How is that possible Sirena?" Kai challenged, "You're a mermaid, and I'm traveling by land."

Sirena giggled as she let go of Kai's hand and pulled herself out of the water until she was resting on the ground a few feet from where Kai was sitting. Kai looked on doubtfully as Sirena brushed the water from the iridescent, green scales of her tail. She continued to massage her tail, while humming a series of high-pitched notes. Kai was astonished to see that Sirena's scales seemed to be lifting, knitting themselves together, and smoothing out into what appeared to be a pale green fabric, which Sirena gently coaxed into the folds of a simple skirt. Beneath the skirt her tail magically separated into two pale muscular legs! Sirena carefully stood up and took a few ginger steps towards Kai, then stumbled a bit.

"Whoa! Careful!" Kai blurted as he leapt forward and caught Sirena around the waist.

Sirena leaned on Kai's shoulder and gave him a shy smile. "I'm a little out of practice, but it won't be long before I can outrun you, I'll bet," she challenged. "All mermaids can leave the water, if they need to. I can't think of a better reason to than what we're facing now Kai. So – what's the plan?"

"Well – here's what I'm thinking," Kai ventured, "I still don't believe that King Cadassi, or any of his men would have anything to do with kidnapping your family. But – at the moment, these hand-shackles are the only clue we have to follow."

Sirena nodded her agreement. "I was also thinking Kai, that the King may be just the person to help us find the Waterkeeper. At the very least, he'll be able to offer us some support and resources. The Great River is everyone's concern."

"To the King's Court then!" Kai exclaimed.

"To the King's Court!" Sirena echoed. "I think we're going to make a good team." **w**

*Stay tuned for the next chapter in Summer 2007.  
Ideas for the story? Contact editor@waterkeeper.org*



Author Rebecca Northan is an actor and director.



# In the Navy Part 2

By John Farr



BILL ABBANONIEZ

The cruel Padget undermines Crawford's more humane instincts, turning the crew into a mutinous horde.

**N**ow comes my final installment of Navy films which float my boat, with all titles readily available on DVD.

**In Which We Serve (1942):** With Britain in the pit of the Second War, playwright Noel Coward was desperate to develop a morale-boosting film, and this was the result. Based on the wartime exploits of his friend Lord Mountbatten, co-director/writer Coward plays Captain Edward Kinross, commander of the destroyer HMS *Torin*, sunk by the Nazis. As Kinross and his small crew cling to a raft in hope of rescue, we experience the lives of each survivor via flashback; notably, Kinross himself and one Seaman Shorty Blake (Mills). With Coward at the helm as writer, star and score composer, David Lean handling most of the direction and future director Ronald Neame the cinematography, the result is one of Britain's very finest war films.

**Destination Tokyo (1943):** Still smarting from the Pearl Harbor attack and subsequent Japanese victories, seasoned submarine captain Cassidy (Cary Grant) helps the allies go on the offensive in the Pacific in the thick of the Second World War. His daring mission: to plant his sub right smack in Tokyo Bay, get a landing party ashore, and bring back intelligence vital to the success of a major upcoming air engagement. Notwithstanding some explicit anti-Japanese sentiment, crew rough-housing and sappy longings for home, "Destination" stands as a first rate propaganda picture. Cassidy's tender thoughts of his wife and son served then as a potent reminder of what we were fighting for. And the movie only improves the closer we get to Japan, and the outcome of the sub's perilous assignment.

**The Cruel Sea (1953):** In the Royal Navy's merchant fleet during World War II's crucial Battle of the North Atlantic, the seasoned Captain Ericson (Hawkins) takes command of a convoy escort vessel dubbed "Compass Rose." His crew is less than ideal, with a largely incompetent first lieutenant (Stanley Baker) holding a large chip on his shoulder, bullying green cadets Lockhart and Ferraby (Donald Sinden and John Stratton). Ericson's charge is challenging and thankless: to transform his men into a solid fighting team, while avoiding the German U-Boats on the look-out for their ship. With a literate, nuanced script by Eric Ambler, this war film is distinguished by the stunning work of Hawkins as Ericson, patiently but firmly coalescing an inexperienced, fractionated group of young men into a proficient crew.

**Run Silent, Run Deep (1958):** In veteran director Robert Wise's tense, trim "Run," an aging but vigorous Clark Gable plays Commander Richardson, a career Navy officer who wrangles one last submarine command a year after his last sub was torpedoed in Japan's perilous Bungo Straits. His second in command is Lt. Jim Bledsoe (Burt Lancaster) who'd been in line to helm the sub. Crew unrest grows as Richardson drills the crew mercilessly on maneuvers ("Dive! Dive!"), and it dawns on Bledsoe that Richardson intends to bend his orders to pursue the infamous Japanese destroyer that slammed him before. "Run" remains not only a riveting war film, but one of mega-star Gable's last shining moments.

**Damn The Defiant (1962):** Lewis Gilbert's overlooked British entry fires on all cylinders. Set during the Napoleonic Wars at the end of the 18th century, Captain Crawford (Alec Guinness) runs a tight ship, the H.M.S. *Defiant*. What the fair-minded Crawford doesn't count on is his new second-in-command, First Lieutenant Scott-Padget (Dirk Bogarde) a young martinet-in-the-making with friends in high places. The cruel Padget undermines Crawford's more humane instincts, turning the crew into a mutinous horde. Meanwhile, there's a war on, and French ships to sink. Director Gilbert shows a sure hand here and the denouement is worth waiting for, with stunning color footage recreating these beautiful ships in full battle mode.

**The Hunt For Red October (1990):** When a Russian nuclear sub goes off its intended course and heads for the United States, CIA analyst Jack Ryan (Alec Baldwin) must decipher whether the crew's intention is to attack America or stage a mass defection. With only Soviet captain Marko Ramius (Sean Connery) knowing the answer, tension mounts on both sides until the nail-biting finish. The first and best of the Tom Clancy film adaptations, "Hunt" is a sharp, nerve-jangling doomsday thriller. With the peerless Connery joined by Alec Baldwin, Scott Glenn, James Earl Jones, and Sam Neill (particularly good here as Ramius's loyal second-in-command), and directed by John McTiernan, "Red October" delivers high-octane, high testosterone adventure, packed with stars we know and love. **W**

For more ideas on great movies on DVD visit [www.bestmoviesbyfarr.com](http://www.bestmoviesbyfarr.com)

# On The Table

Giles Ashford

On Lispenard Street in Tribeca you'll find one of New York's best kept culinary secrets. Japanese restaurant Tataki specializes in fish: raw or cooked, in soups or served whole with head and tail, steamed or grilled, fried or sauteed. Kitchen chef Mei Lin and sushi chef James work their magic to feed hungry diners. Every day owner-manager Joe-e visits a dozen or so seafood markets in Chinatown, Little Italy and the Lower East Side searching for the city's freshest fish. Featured here are a pair of Axe Butterfish from Florida. [www.Ashford7.com](http://www.Ashford7.com)







# Two Acres Forward, Three Acres Back


Bush administration backs off open season on wetlands in Mississippi – Later declares open season on wetlands.



Last fall, the Army Corps of Engineers proposed a new permitting scheme for six coastal Mississippi counties that would allow developers to destroy up to five acres of non-tidal wetlands and waters per development project. They claimed the change was needed to address the urgent redevelopment needs of coastal Mississippi in the wake of Hurricane Katrina. Their logic was flawed. Allowing developers to destroy wetlands would increase flooding and put everyone at increased risk. Thanks to an outcry from members of the threatened communities and nationwide effort by wetlands activists - including 7,500 written comments – the Bush administration abandoned the proposal.

The Corps went back to the drawing board, but didn't learn a thing. This spring the Corps released

their revised proposal: allowing the destruction of up to three acres of wetlands for construction or expansion of development projects. The Corps added some additional conditions to their proposal, for instance, carving out the already severely flood prone Turkey Creek watershed as off limits, and prohibiting destruction for recreational purposes or in the 100-year floodplain. However, the revised plan remains grossly illogical and downright dangerous. Protection for wetlands in flood impacted areas should be strengthened, not weakened. The Corps has shirked their responsibility to protect the public again. Waterkeeper Alliance is urging the Corps to withdraw their proposed plan and put the people first. [w](#)

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**CLEAN  
WATER,  
STRONG  
COMMUNITIES.  
GO. DO BE.**



*Tracy, Dr. Kish, Amber, and Anthony take a moment to stand together on the banks of the spawning Grand Canyon SDDMP. The "Grand Canyon Defenders" meeting March 2007.*



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To learn more about Waterkeeper Alliance initiatives visit [www.waterkeeper.org](http://www.waterkeeper.org)

The original sport sandal. The future of outdoor footwear. ©TEVA 2007





Wednesday, July 23, 1997  
Environment

# Thousands of fish die

## Neuse: Death by indifference

care about the river depends on how they use it. For the Triangle, the Neuse is a place to dump treated sewage. For the farm belt, the river is an important drainage ditch for billion-dollar industries like pork and poultry. Along the coast, however, the

### DAY ONE

Near its headwaters in the Triangle, the Neuse runs clear and clean. But it doesn't stay that way long. The booming Raleigh-Durham area puts more pollution into the river each year, while wiping out wetlands and other natural filters that protect the river.



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By Erick Gil  
Freedom  
A hot spot of...  
sions, coupled with...  
lence, may be an early...  
will occur next week.

## Officials put NC seafood into frying pan

River health

By Erick Gil  
Sun...

## Big polluters pay small price

Regulators can slap companies with big...

## Cabinet

The head of the state Department of Health and Natural...