

A dynamic photograph of clear blue water being poured from the top left into a tall, slender glass on the right. The water is captured in mid-pour, creating a sense of motion and splashing. The background is plain white.

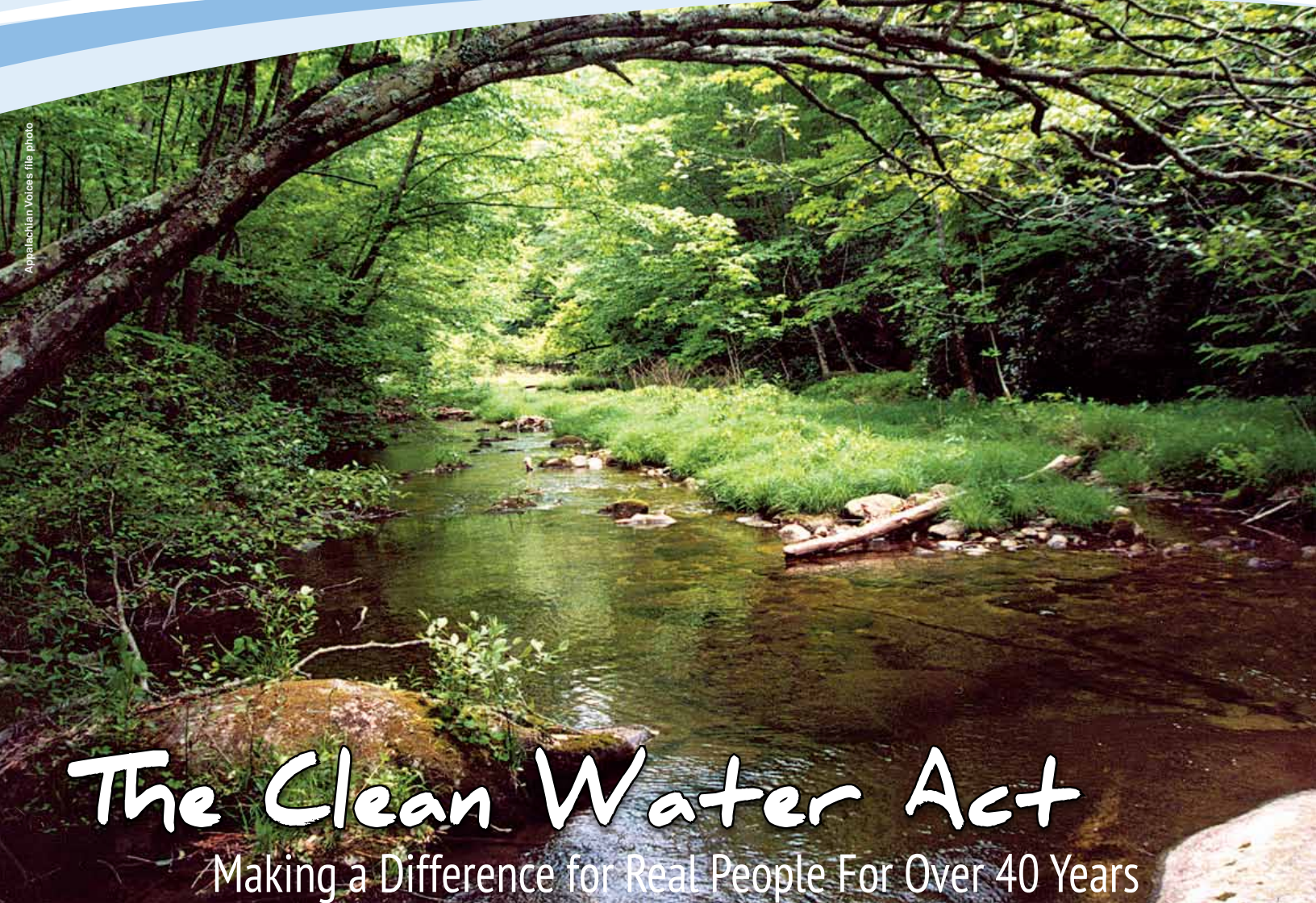
The Clean Water Act

at

40

Real People, Real Successes, Real Threats

Appalachian Voices file photo



The Clean Water Act

Making a Difference for Real People For Over 40 Years

Mike King grew up in Kanawha County, West Virginia, in the heart of coal country, where miners and their families lived in dust-covered coal camps and local waterways such as Morris Creek in Montgomery were fouled by pollution.

"The few times we had fish try to come up the river, their gills would actually fall off due to the high acidity of the water," he recalls. "The water was orange and white, with a horrible smell of rotten eggs."

King's description of Morris Creek a decade ago is in stark contrast to the condition of the creek today. The listing of the creek in 1996 as "impaired" under the Clean Water Act didn't just trigger more stringent limits on pollution discharges in the watershed, it also provided the opportunity for King and others in the community to initiate a number of projects to improve water quality with federal matching funds.

Today, the water in Morris Creek is improving, fish and other aquatic animals are making a comeback, and King says the stream cleanup projects in his community are setting an example that is "helping others to understand stewardship and how to take care of their own property."

Thousands of similar stories could be told about how the Clean Water Act has made a real difference in the lives of Americans over the 40 years since it was signed into law.

Amid the atmosphere of partisan rancor and inflammatory rhetoric that surrounds any debate about environmental laws and regulations today, the 40th anniversary of the Clean Water Act provides an occasion to recall the strong bipartisan commitment this nation once made to restore and maintain the "chemical, physical and biological integrity of the Nation's waters" four decades ago. It also presents an occasion to look at the



Photo: Eric Englerstein, U.S. Fish and Wildlife Service



Photo by Rich Stevens



Photo by John D. Wilson



Photo by Jamie Gorman

multitude of ways that the Clean Water Act has improved the quality of life for ordinary Americans, from providing entrepreneurs with opportunities to start businesses to ensuring that thousands of communities have access to clean and safe drinking water.

As encouraging as this kind of progress is, however, America is a long way from fulfilling the goals and promise of the Clean Water Act. The original goals set by Congress were to rapidly phase out "discharge of toxic pollutants in toxic amounts" and thereby eliminate most water pollution by 1985. Today, 27 years after the initial target date, we're nowhere near achieving that goal. In fact, an investigative report by the *New York Times* in 2009 not only found that the Clean Water Act had been violated more than 506,000 times between 2004 and 2007, but that the annual number of violations had actually increased by 16 percent over that time⁴.

While the Cuyahoga River no longer catches on fire and Lake Erie is no longer considered "dead,"⁵ as was the case before the Clean

Water Act was passed into law, the EPA still estimates that 850 billion gallons of sewage are discharged into streams every year⁶, and that more than 40 percent of U.S. streams are still considered in poor biological condition⁷.

Despite the clear evidence of the need to strengthen efforts to

clean up our streams, the Clean Water Act and other laws that protect America's waters are facing an unprecedented assault in Congress. During the 112th Congress alone, 38 bills were introduced and passed in the House of Representatives to weaken clean water laws or to undermine the ability of federal agencies to enforce them. Fortunately, most were not introduced or passed in the Senate.

No part of the country has seen a greater erosion of

Some of the successes of the Clean Water Act in the past 40 years

- The number of Americans receiving clean drinking water has increased from 79 percent in 1993 to 92 percent in 2007¹
- More than 2,000 water bodies identified as impaired in 2002 now meet water quality standards²
- 60 percent more Americans were served by publicly-owned wastewater treatment facilities in 2008 than in 1968³.

support for clean water protections over the past 40 years than the Southeast. All but one of the 65 representatives from southeastern states voted to support the Clean Water Act in 1972, but in the last two years, representatives of these states have voted in favor of weakening clean water laws 75 percent of the time. Among the eight states examined in this report, Alabama's delegation was the most hostile to clean water laws, voting in favor of weakening them 87 percent of the time.

This report describes in detail the 112th Congress's unprecedented assault on clean water laws and the support for that agenda among the delegations of eight southeastern states. The purpose is not to berate those members of Congress, but to remind them of the real difference that the Clean Water Act is making in the lives of their constituents. From oyster farms in Virginia Beach to dairy farms in the Carolinas, the Clean Water Act is creating jobs and business opportunities, restoring fish and duck populations and ensuring that more and more Americans enjoy the fundamental right of access to clean and safe water.

As former Congressman James Oberstar said in a recent interview, "NASA has spent billions over the years sending men to the moon and on dozens of other space missions, and very often the thing they most wanted to discover on these missions was fresh water. That should tell us what we need to know about protecting the fresh water we have here on earth."



A hand covered in polluted sludge from the Cuyahoga River prior to 1972. A fire on that river ultimately lead to the creation of the Clean Water Act. Photo courtesy of the Cleveland Plain Dealer



Photo by Matt Wasson

Spain News file photo



Biggest Clean Water Threats in the 112th Congress

Americans are fortunate that none of these bills have become law, but we should all be alarmed that they gained enough traction to pass the House of Representatives.

H.R. 2018: Eliminating EPA Oversight of the Clean Water Act
 In May 2011, Rep. John Mica (R-FL), chairman of the Transportation and Infrastructure Committee, introduced the Clean Water Cooperative Federalism Act. H.R. 2018 was designed to prevent the EPA from revising weak state water quality standards or issuing new ones unless an individual state concurs, even if the standard is insufficient to protect human health or aquatic life. According to the agency, the bill would “overturn almost 40 years of federal legislation by preventing EPA from protecting public health and water quality.”

H.R. 2401: Needlessly Delaying Rules That Would Protect Our Water from Mercury
 Rep. John Sullivan (R-OK) introduced H.R. 2401, the Transparency in Regulatory Analysis of Impacts on the Nation Act (TRAIN Act) in the fall of 2011. The TRAIN Act called for duplicative analyses of the costs, but not the benefits, of several EPA public health safeguards. It also allowed for the indefinite delay of EPA’s Cross-State Air Pollution Rule and the Mercury and Air Toxic Standards, two safeguards that prevent up to 11,000 premature deaths, 5,000 heart attacks, 130,000 asthma attacks and 5,700 hospital and emergency room visits every year — all while reducing the number of children and pregnant women exposed to toxic mercury.

The Recycling Coal Combustion Residuals Accessibility Act, sponsored by Rep. David McKinley (R-WV), would ensure that utilities can continue disposing of toxic coal ash, the waste generated from burning coal, in unsafe dams like the one that failed at a Tennessee Valley Authority plant in Kingston, Tenn., in 2008. The law creates an unenforceable program for states to manage coal ash and would allow coal-fired units to avoid health-protective measures such as fixing unsafe coal ash dumps, cleaning up contaminated sites, or closing leaking and unstable coal ash ponds and landfills. The bill would also permanently prevent EPA from finalizing rules to regulate over 1,000 aging coal ash dumps nationwide.

H.R. 2273: Congress Prevents EPA from Issuing Science-Based Guidelines on Toxic Coal Ash

The “Stop the War on Coal” bill, sponsored by Rep. Bill Johnson (R-OH) is a repackaging of all the bills noted above, as well as an addition. The bill would also prohibit the Office of Surface Mining, Reclamation and Enforcement from issuing any proposed regulation under the Surface Mining Control and Reclamation Act that would reduce coal mine employment by as much as one job, reduce taxes received from coal mining by as much as one dollar, or reduce the amount of coal available for mining by one ton. The bill even eliminated the agency’s ability to designate an area as unsuitable for surface coal mining, which is one of the most important protections available under the mining law.

H.R. 3409: Congress Declares War on Water

Dirty Politics and the Clean Water Act

An Overview of the 112th Congress

When the 112th Congress convened on January 3, 2011, it marked the beginning of an unprecedented assault on our nation’s clean water laws. According to the House Committee on Energy and Commerce, the U.S. House of Representatives voted 38 times to weaken the Clean Water Act and other laws protecting water resources in just the past two years.

The first round of anti-clean water votes were in the form of riders to the budget bill, H.R. 1. While none were signed into law, these riders would have eliminated funding for the U.S. Environmental Protection Agency to conduct meaningful oversight of mountaintop removal coal mining operations in Appalachia, implement a cleanup plan for the Chesapeake Bay and waterways in Florida, and control discharges that would have an “unacceptable adverse effect” on water, fish or wildlife. The House budget bill, though later amended and improved by the Senate, set a drastic tone by pitting environmental concerns against powerful corporate interests.

More bills aimed at weakening clean water protections soon followed. The House attempted to remove the EPA’s ability to regulate pesticide pollution (H.R. 872). Another bill would block states from regulating the discharge of ballast water (H.R. 2838), even though invasive species are increasingly infesting many aquatic ecosystems. Another bill attempted to undermine California’s control of its water resources and envi-



Appalachian Water Watch photo

ronmental protections (H.R. 1837), exposing critical salmon habitat to harm and opening up water rights to the highest bidders.

Other bills passed by the House attempted to stymie EPA’s ability to enforce clean water laws enacted during previous sessions of Congress. Two of these measures (H.R. 2354 and 5325) would prevent the Army Corps of Engineers from protecting certain streams and wetlands under the Clean Water Act, and prevented the EPA from ever proposing a rule specifically to protect those waters. Another bill would block any major rule-makings by the EPA unless both houses of Congress approve it within 70 legislative days (H.R. 10). The Regulatory Accountability Act (H.R. 3010), tried to create significant hurdles to adopting clean water regulations and required the EPA to choose the least costly alternative in selecting a rule, rather than the most protective for public health and the environment.

Some of the bills passed by the House were designed simply to perpetuate the misleading notion that environmental protections cost jobs. One act stated that, unless unemployment dropped below six percent, no regulation to protect the environment could be passed (H.R. 4078). Another bill required additional analyses for all proposed EPA rules that could have an impact, no matter how indirect, on small businesses (H.R. 527).

The Clean Water Act created a framework for water permitting based on federal-state partnership in per-

mitting and enforcement activities. The federal government, through the EPA, establishes guidelines, objectives and limits, and provides technical and financial assistance, including matching grants to local governments to build wastewater and stormwater treatment systems. The states issue and monitor permits required by the Clean Water Act and set most specific water quality standards, while the federal law provides a level playing field throughout the nation.

If the federal government cannot enforce and support the Clean Water Act, history suggests that states will soon engage in a “race to the bottom,” as politically connected polluters are able to exert greater influence over state regulators and legislators who control the purse strings of state agencies.

In total, the House of Representatives in the 112th Congress voted to:

- ≈ Strip EPA of its authority under the Clean Water Act to set water quality standards or enforce pollutant discharge limits in states that fail to implement the law;
- ≈ Eliminate EPA’s authority to veto “dredge and fill” permits for mountaintop removal mines and other activities;
- ≈ Deny EPA funding to protect wetlands and tributaries that flow into navigable waters; and
- ≈ Block the EPA from using the Clean Water Act to regulate the discharge of pesticides into rivers, lakes, and streams.

Virginia



Virginia is home to more than 50,000 miles of rivers and streams and 150,000 acres of lakes and reservoirs. Just over one-third of the rivers and streams have been assessed by the state in 2010, with two-thirds found to be impaired for one or more criteria. The most common causes of stream impairment are high levels of *E. coli*, mercury and dissolved oxygen. About five percent of impaired streams and rivers have been cleaned up.

While Virginia's water division has been more successful than neighboring states at cleaning up impaired rivers and streams, state legislators in 2011 voted to dramatically restrict the agency's ability under the Clean Water Act to protect public health and the environment from pollution from surface coal mines. Recently enacted legislation limits the ability of state regulators to use water quality testing to make permitting and enforcement decisions involving pollution discharges from coal strip mines.

The support for bills to weaken clean water protection shown by state legislators has largely been mirrored by Virginia's members of Congress who collectively voted in favor of federal bills that would weaken clean water protections 65 percent of the time during the 112th Congress. This is in stark contrast to the unanimous support for the Clean Water Act by Virginia's representatives in 1972.

Votes Against Clean Water

Percentage of representatives from Virginia that voted to weaken clean water laws in the 112th Congress.

H.R. 3409 — The War on Coal Act includes the following three bills plus a provision to prevent an Office of Surface Mining rule that would protect streams from mountaintop removal coal mining impacts.
SCORE: 45%

H.R. 2401 — The TRAIN Act would create a duplicative interagency panel to study the economic impacts of several standards such as the EPA's mercury rule, causing potential delays for safeguards for up to six years.
SCORE: 64%

H.R. 2273 — The Coal Residuals Reuse and Management Act would stop the EPA's ability to regulate coal ash disposal in favor of a non-enforceable state program.
SCORE: 64%

H.R. 2018 — The Clean Water Federalism Act would remove the EPA's authority to enforce the Clean Water Act, dramatically weakening clean water protections.
SCORE: 45%

Overall percentage of votes by Virginia representatives AGAINST clean water in the 112th Congress



Clean Water = Good Business

An oysterman sees direct benefits of a cleaner Chesapeake Bay

Hap Chalmers understands the importance of clean water better than most. As the owner of Lynnhaven Oyster Company in Virginia Beach, Va., his livelihood depends on it.

The oysters from Lynnhaven River were once so renowned that they were coveted by royalty. But while they may be thought of as little more than a delicacy to dine on, oysters also serve as one of nature's best water filtration systems. The Chesapeake Bay in Maryland and Virginia, which Lynnhaven River flows into, once housed such a immense population of oysters that all the water in the estuary was filtered every few days.

A number of environmental threats cut short the reign of these once-famous oysters. These threats included loss of habitat, over-harvesting and excess water pollution.

Chalmers recalls when he began his oyster business ten years ago: "Back then, Virginia Beach was the fastest growing city in the country and ... there were no best management practices in place. The water was cloudy and murky all year round. Now fall, winter and spring, it's very clear and you can see the bottom off my dock is about six feet deep."

In 1998, due to high fecal coliform bacteria levels from faulty sewage and stormwater management systems in the rapidly growing city, the Virginia Department of Environmental Quality designated the Lynnhaven, Linkhorn and Broad rivers as impaired waters.

With Clean Water Act funding, the Virginia DEQ developed and implemented a "Total Maximum Daily Load" plan to limit pollution and restore the health of the Lynnhaven. Many stakeholders were involved in the plan, including Virginia Beach, the Chesapeake Bay Foundation, the Army Corps of Engineers and the local group Lynnhaven River NOW, to which Chalmers belongs.

Improved shoreline buffer zones assisted in providing long-term protection from erosion and runoff after heavy rains. Sew-



Problem: Faulty sewage and stormwater management systems in Virginia Beach caused high fecal coliform bacteria levels in the Lynnhaven River.

Solution: Improved shoreline buffer zones alleviated erosion and runoff. Generators were fitted on sewage pump stations to keep them operating in case of severe weather. Oyster reefs were created for water filtration.

Result: Bacteria levels were reduced enough to allow for commercial shellfishing.

age pump stations were modified with generators to alleviate the destructive impacts of extreme weather events. And oyster reefs were created to help the bivalves do what they do best — water filtration.

Chalmers' business, which he runs with his son, not only benefits the local economy but the health of the bay. The millions of oysters they planted this year will filter more than one billion gallons of water per week.

"The better we do in our business, the cleaner the water gets. The same for other oystermen, too," Chalmers says.

These efforts culminated in 2010, when the Lynnhaven River was removed from the Clean Water Act's list of impaired waters. More than 1,450 acres now meet water quality standards to ensure safe consumption of shellfish, the most since 1931, according to Lynnhaven River NOW.

Expressing his gratitude for living and working on the Lynnhaven River, Chalmers says, "Because the community has pulled together, with nobody fighting the progress, everyone is for it — the city, the government, the Army Corps and the citizens. It's amazing."

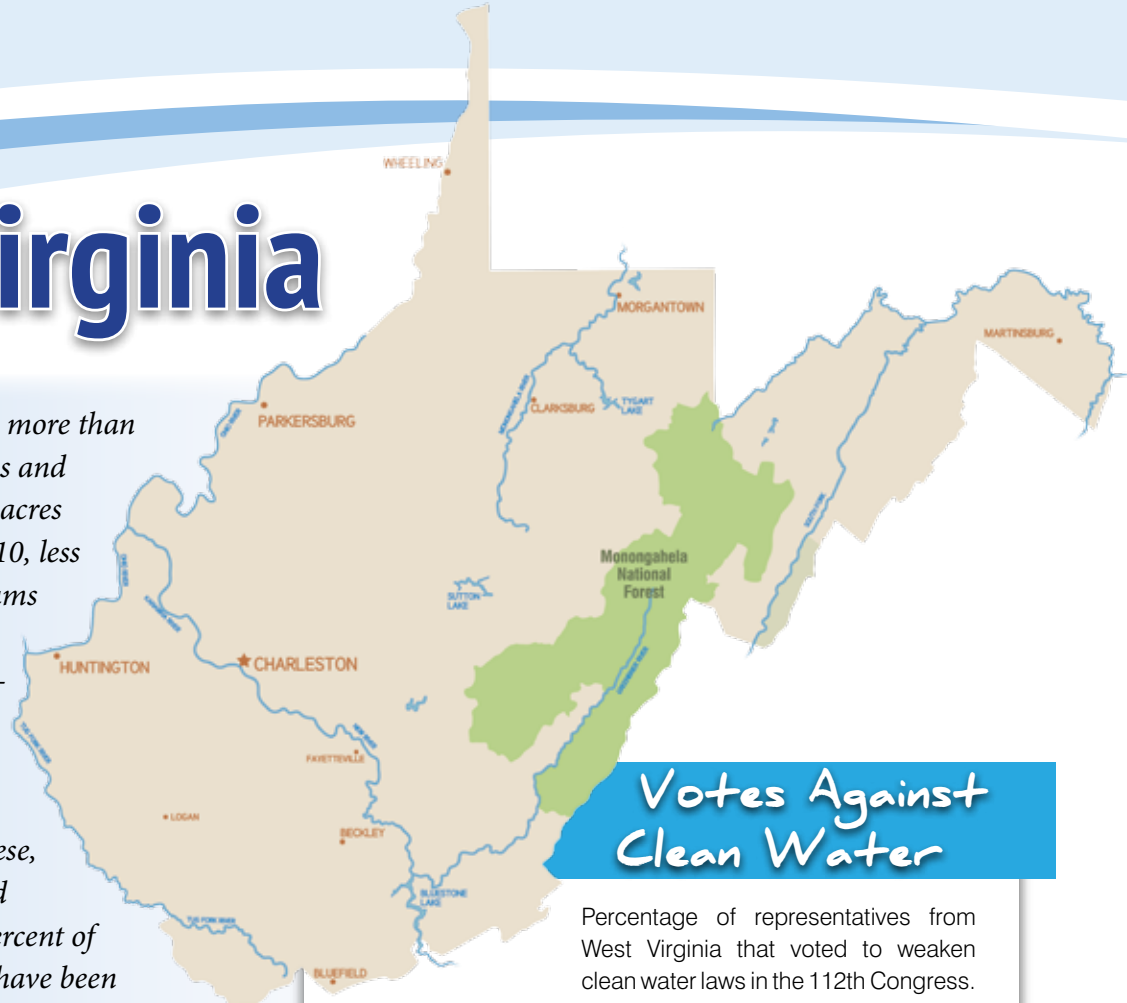


West Virginia

West Virginia is home to more than 32,000 miles of streams and rivers and more than 22,000 acres of lakes and reservoirs. In 2010, less than 60 percent of those streams and rivers were rigorously assessed; of those, nearly two-thirds were impaired. Frequent causes of impairment are fecal coliform bacteria, metals such as iron, manganese, selenium and aluminum, and high acidity. Less than one percent of impaired rivers and streams have been restored to state water quality standards

The state water permitting program has been widely criticized as ineffective and public interest groups have petitioned the U.S. Environmental Protection Agency to take over the state's program. An investigation by the New York Times reported that six former and current state environmental department employees complained that their enforcement efforts had been "undermined by bureaucratic disorganization, a departmental preference to let polluters escape punishment if they promise to try harder, and a revolving door of regulators who leave for higher-paying jobs at the companies they once policed."

Support for clean water laws by the state's congressional delegation has declined precipitously since 1972, when all five representatives voted in favor of the Clean Water Act. Today, the delegation has among the worst voting records on clean water laws in Congress, supporting measures to weaken clean water protections 85 percent of the time.



Votes Against Clean Water

Percentage of representatives from West Virginia that voted to weaken clean water laws in the 112th Congress.

H.R. 3409 — The War on Coal Act includes the following three bills plus a provision to prevent an Office of Surface Mining rule that would protect streams from mountaintop removal coal mining impacts.
SCORE:100%

H.R. 2401 — The TRAIN Act would create a duplicative inter-agency panel to study the economic impacts of several standards such as the EPA's mercury rule, causing potential delays for safeguards for up to six years.
SCORE:100%

H.R. 2273 — The Coal Residuals Reuse and Management Act would stop the EPA's ability to regulate coal ash disposal in favor of a non-enforceable state program.
SCORE:100%

H.R. 2018 — The Clean Water Federalism Act would remove the EPA's authority to enforce the Clean Water Act, dramatically weakening clean water protections.
SCORE:100%

Overall percentage of votes by West Virginia representatives AGAINST clean water in the 112th Congress



Reseving Morris Creek

Saving a West Virginia waterway from coal mining pollution

"Orange and sometimes white, depending on what the coal company was doing, with a horrible smell of rotten eggs." That's how Mike King describes the pollution that plagued Morris Creek.

King grew up next to the creek in a dust-covered Kanawha County coal camp, where miners lived with their families to be close to their work. His family has lived in the area since his grandfather immigrated here from Russia in 1913. Now, his son lives in the house that his grandfather once inhabited.

Running through the town of Montgomery, Morris Creek was once a vibrant waterway that supported a wide array of creatures such as lizards, minnows and crawfish. At least, it was vibrant, until acid mine drainage from abandoned underground mines and poorly reclaimed surface mines contaminated the creek with heavy metals including iron, aluminum and manganese.

Under the Clean Water Act, the West Virginia Department of Environmental Protection listed the creek as severely impaired in 1996. An analysis of pollutants in the creek revealed that the heavy metals needed to be reduced by 1,000 pounds a year. Along Morris Creek alone, there are several locations where acid mine drainage was leaking into the creek.

"In the few times we had fish that would try to come up the river, their gills would actually fall off due to the ... high acidity of the water," King says. "So for years ... we had no fish at all in the stream."

Not much was being done to restore the health of the creek until 2002, when King and the Morris Creek Watershed Association approached the federal Office of Surface Mining and WVDPEP about implementing projects to reduce the amount of pollution entering the creek.

Due to Morris Creek's listing under the Clean Water Act, the Morris Creek Watershed Association was eligible for grants



Problem: Acid mine drainage from abandoned and poorly reclaimed mines leached into the once-vibrant, biodiverse Morris Creek.

Solution: Channels lined with limestone were constructed to prevent toxic acid mine drainage from entering the creek.

Result: A significantly reduced amount of heavy metals entering the creek, leading to the return of aquatic life.



All photos courtesy of Morris Creek Watershed Association

from the WVDPEP and U.S. Environmental Protection Agency's Abandoned Mine Lands program.

The most common way of treating acid mine drainage is by creating a natural wastewater system with holding ponds and limestone channels to absorb heavy metals before they reach the creek. Two large drainage channels lined with

limestone were built along upper Morris Creek to prevent the most toxic seeps of acid mine drainage from ever entering the stream.

The project took almost four years to complete, but water quality began to immediately improve, and the water tested well below the state's pollution limits for optimal stream health. Today in Morris Creek, trout and other aquatic life are making a comeback.

The health of Morris Creek remains a work in progress. Additional projects to benefit the creek have received federal grant money to reduce sediment entering the creek and stabilize stream banks. Also on the list is the installation of a hydro-turbine on one of the acid mine drainage discharge pipes that could generate 1,300 watts of electricity to power the water monitoring equipment.

The success of the project reaches far beyond reducing pollution discharged. "There's the satisfaction of getting things done, taking a creek from where it's orange and completely dead to supporting life," King says. "You are also providing a better opportunity for our future generations to enjoy recreation in an area that previously hadn't had that. Lastly, it helps others to understand stewardship and how to take care of their own property."

Kentucky



Kentucky has nearly 50,000 miles of rivers and streams and almost 230,000 acres of lakes and reservoirs. As of 2010, just 22 percent of rivers and streams had been assessed by state officials, with two-thirds found to be impaired by one or more pollutants. The most frequent causes of stream impairment are sediment, fecal coliform bacteria and nutrients that can cause eutrophication and specific conductivity.

Kentucky's water quality program has been harshly criticized by newspapers in the state for its "cozy relationship with the coal industry," and ineffective enforcement program, as evidenced by the fact that only nine of the nearly 7,000 miles of rivers and streams listed as impaired have been restored to state water quality standards. The Lexington Herald-Leader wrote in reaction to a lawsuit filed against coal companies for Clean Water Act violations in 2011, "state regulators had been asleep at the wheel for years," to the extent that, "the state had no way of knowing whether the coal companies had violated their water pollution permits."

In 1972, Kentucky's congressional delegation voted unanimously to enact the Clean Water Act, but during the 112th Congress, 73 percent of votes by Kentucky's representatives impacting clean water laws favored weakening protections.

Votes Against Clean Water

Percentage of representatives from Kentucky that voted to weaken clean water laws in the 112th Congress.

H.R. 3409 — The War on Coal Act includes the following three bills plus a provision to prevent an Office of Surface Mining rule that would protect streams from mountaintop removal coal mining impacts.

SCORE: 83%

H.R. 2401 — The TRAIN Act would create a duplicative interagency panel to study the economic impacts of several standards such as the EPA's mercury rule, causing potential delays for safeguards for up to six years.

SCORE: 80%

H.R. 2273 — The Coal Residuals Reuse and Management Act would stop the EPA's ability to regulate coal ash disposal in favor of a non-enforceable state program.

SCORE: 83%

H.R. 2018 — The Clean Water Federalism Act would remove the EPA's authority to enforce the Clean Water Act, dramatically weakening clean water protections.

SCORE: 67%

Overall percentage of votes by Kentucky representatives AGAINST clean water in the 112th Congress



Lack of Clean Water Stinks

Fixing faulty septic systems cleans up a Kentucky waterway

Clark County in central Kentucky is known for its rolling hills, fertile soil and thoroughbred horses. Snaking 25 miles through the county is Strodes Creek, a headwater stream of the South Fork of the Licking River.

Threats to water quality in the creek were pervasive — silt, bacteria and oxygen-depriving nutrients had the potential to render it unsuitable for aquatic life. The source of this pollution mostly stemmed from poor agricultural practices and failing septic tanks.

John Jones had one of those failing septic tanks. Although he spent the majority of his career meeting complex demands as an explosives operator for a U.S. Army weapons storage facility, nothing could have prepared him for the issues he faced back home.

"For over 20 years there were times you couldn't take a shower or flush the toilet because there just wasn't anywhere for the water to go," Jones explains.

Because his septic tank was improperly installed on a hill, it routinely filled with rainwater and overflowed during heavy storms. Each time this occurred, an unwelcome pool of sewage



collected in his front yard.

Through the Clean Water Act's *Nonpoint Source Pollution Program*, Jones received a brand-new septic system, properly installed on flat ground. Three of his neighbors also received a full septic system upgrade. In all, 86 septic systems in the Strodes Creek watershed either received minor repairs or were fully upgraded.

"Hats off to the people in charge of this project because they realized people were having some severe problems and were able to correct it," Jones says, perhaps remembering the pool of sewage that would collect near his home.

Shandra Cecil, the director of the Strodes Creek Conservancy, explains how an assortment of minor projects like the ones in Jones' community benefit the overall health of the watershed.

"All of the small nonpoint source issues, when put together, can really do damage to the creek," she says. "But regardless of how small, eventually [projects] will start creating cumulative benefits." The conservancy has implemented a number of projects including planting trees, controlling agricultural pollution, repairing septic tanks and restoring streams.

Nitrate and phosphorus pollution were reduced collectively by 4,000 pounds per year, and silt contamination was reduced by eight tons each year. From a significant reduction in pollutants of Strodes Creek to peace of mind for homeowners like Jones, this watershed project has had impressive results across the board.

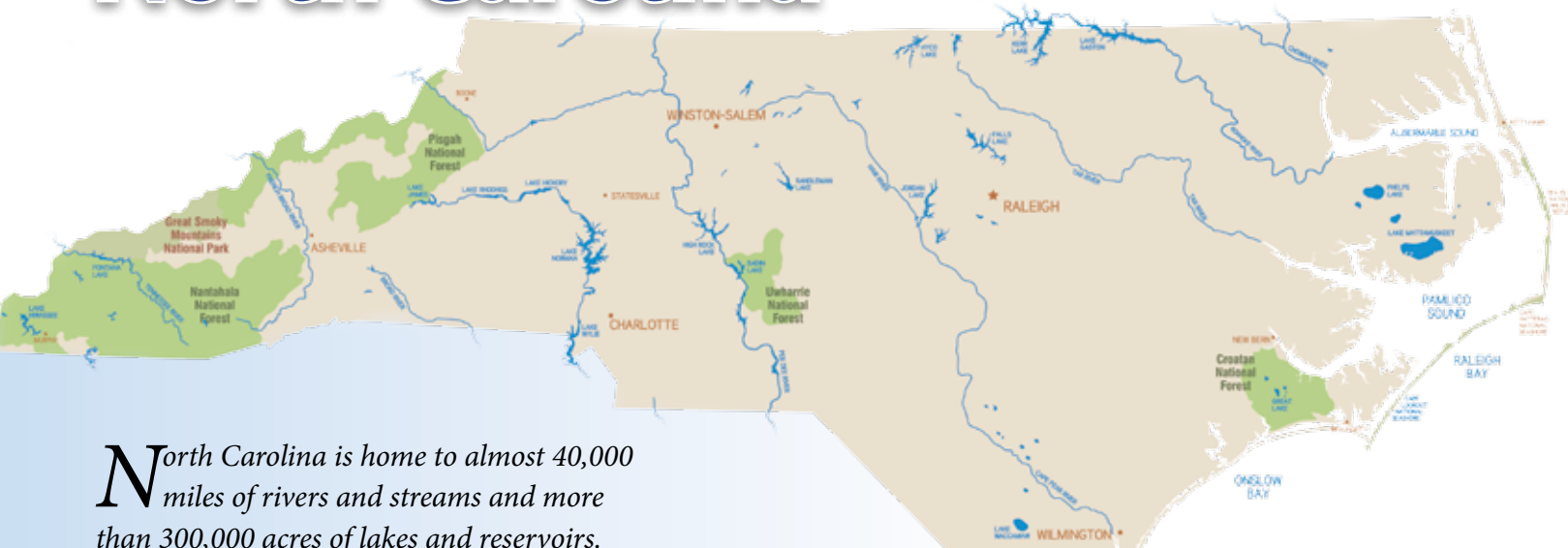
"There is reduced algae and the odor from the creek has subsided," Cecil says. "We had a landowner call our mayor and say they're not sure what we're doing, but that they are enjoying the creek more."

Problem: In the Strodes Creek watershed, failing septic systems and agricultural practices contributed to increased nutrient levels and sediment which lowered oxygen levels.

Solution: Failed residential septic tanks were replaced or upgraded and agricultural best practices were put in place.

Result: Significantly reduced nutrient levels and increased oxygen levels in Strodes Creek.

North Carolina



North Carolina is home to almost 40,000 miles of rivers and streams and more than 300,000 acres of lakes and reservoirs. About one-third of the rivers and streams have been assessed by the state, with more than 30 percent of those found to be impaired for one or more criteria. The most common causes of stream impairment are high levels of turbidity, mercury and E. coli.

Just one to two percent of impaired streams and rivers have been cleaned up in North Carolina. The ability of the state to make substantial further progress is questionable following the enactment of Senate Bill 781 by the General Assembly in 2011, which cut the Clean Water Management Trust Fund by nearly 90 percent and conservation funding by 85 percent. The bill also forbade the state from enacting protections that are stronger than minimum federal standards.

During the 112th Congress, U.S. representatives from North Carolina voted against bills that weakened clean water protections more often than legislators from any other southeastern state. Still, more than half of their votes were in favor of weakening protections. In contrast, North Carolina's representatives voted unanimously in favor of the Clean Water Act in 1972.

Votes Against Clean Water

Percentage of representatives from North Carolina that voted to weaken clean water laws in the 112th Congress.

H.R. 3409 — The War on Coal Act includes the following three bills plus a provision to prevent an Office of Surface Mining rule that would protect streams from mountaintop removal coal mining impacts.
SCORE: **62%**

H.R. 2401 — The TRAIN Act would create a duplicative interagency panel to study the economic impacts of several standards such as the EPA's mercury rule, causing potential delays for safeguards for up to six years.
SCORE: **50%**

H.R. 2273 — The Coal Residuals Reuse and Management Act would stop the EPA's ability to regulate coal ash disposal in favor of a non-enforceable state program.
SCORE: **55%**

H.R. 2018 — The Clean Water Federalism Act would remove the EPA's authority to enforce the Clean Water Act, dramatically weakening clean water protections.
SCORE: **54%**

Overall percentage of votes by North Carolina representatives AGAINST clean water in the 112th Congress



Four Projects for Fourth Creek

A horse-owning couple helps clean up an impaired stream

Bob and Jill Kinser claim they have the best well water around, and they're quick to offer a glass to anyone to prove it. In fact, the only thing more apparent than the Kinsers' hospitality is their hardworking nature.

Looking for a place in the country where they could keep horses, the Kinsers moved to their current Statesville home, in the western Piedmont region of North Carolina, in 1986. Their 23-acre property runs along Fourth Creek.

In 1998, the North Carolina Division of Water Quality designated almost 24 miles of the creek as impaired due to the presence of fecal coliform bacteria and visual turbidity, or murky water, a sign of pollution.

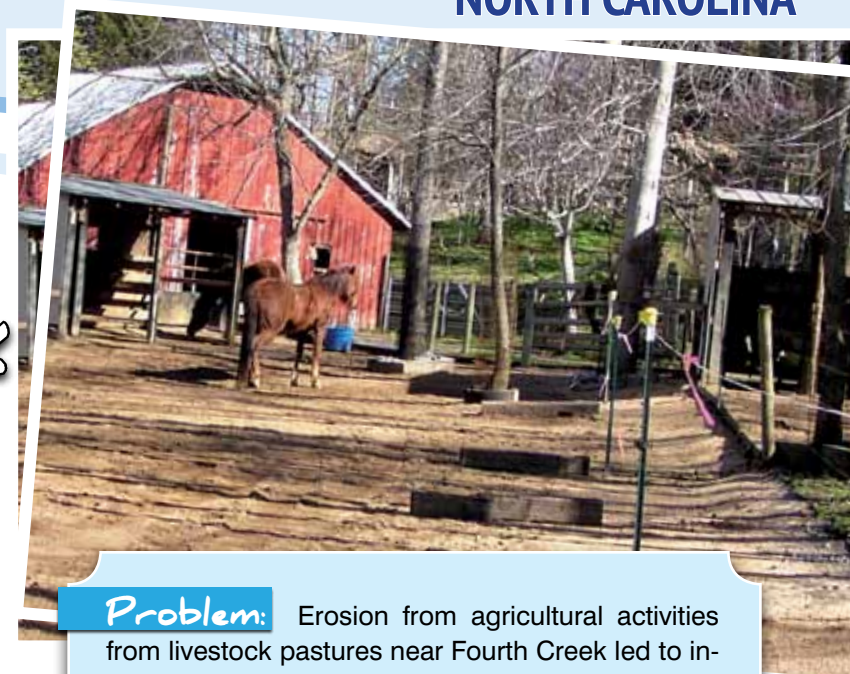
When the Kinsers became aware of the problem, they decided to take action to ensure they had clean water for their horses and met with the Iredell County Soil and Water Conservation district. Using Clean Water Act funding, the county was able to cover 75 percent of the cost for projects to improve water quality, while the Kinsers made up the difference.

The Kinsers' first project involved installing two watering units that prevent debris contamination and regulate water temperature. Next, they built fencing to keep their horses from getting into Fourth Creek and its tributary, mitigating the animals' potential to contribute to the creek's contamination.

Additional projects allowed the Kinsers to continue reducing their environmental impact. They built more fencing and a trail for their horses to prevent runoff from flowing from the horse corals into the creeks. And they constructed a four-bin composter to contain the waste their six horses produce every day, which they now use for fertilizer.

Using the same basic arrangement, the Kinsers completed four water-quality improvement projects on their land from 2005 to 2008. Today, the goal-oriented couple continues to find the balance between personal livelihood and environmental stewardship.

When Jill Kinser reflects on their busy years, hard work and



Problem: Erosion from agricultural activities from livestock pastures near Fourth Creek led to increased fecal coliform bacteria and unclear water.

Solution: Landowners installed fencing to limit livestock access to stream banks, animal watering facilities, and composters to reduce waste going into the stream.

Result: The river has cleared up, and bacteria levels have lowered to a level that meets water quality standards. One section of Fourth Creek has been completely removed from the impaired list while other sections have been partially delisted.



Photos courtesy of Bob and Jill Kinser

consistent success, she speaks proudly of her husband's tireless work as he humbly nods and smiles. "He did the work in every case, every project. He built that composter. He leveled every pound of gravel, ran all the water lines, and built the entire fence. He's part engineer, part old farm boy," she says.

While the funding provided the professional blueprints and materials to complete the projects, it was their own hard labor that helped the Kinsers realize their goals. Their hard work also paid off for the health of Fourth Creek, as segments of the creek are no longer considered impaired for turbidity and fecal coliform.

Bob Kinser offers a simple summary of his experience: "It really makes life a lot easier, to get around and do what needs to be done: our chores. There's just no downside to any of it."

Tennessee



Tennessee is home to more than 60,000 miles of rivers and streams and almost 600,000 acres of lakes and reservoirs. As of 2010, half of the state's rivers and streams had been assessed by state officials, about 40 percent of which were found to be impaired based on one or more criteria. The most frequent causes of stream impairment were high levels of *E. coli*, sedimentation, habitat alteration and dissolved oxygen. Less than 100 of the 13,000 miles of impaired rivers and streams in Tennessee have been restored to good condition.

Tennessee's decision-makers have increasingly supported measures to weaken clean water protections in recent years. At the state level, there were 16 different bills to weaken clean water laws introduced in the legislature in 2009. At the federal level, Tennessee's members of Congress have also been increasingly hostile to clean water protections, voting in favor of bills to weaken them 78 percent of the time. In 1972, when the Clean Water Act came before the House of Representatives, Tennessee's delegation voted unanimously in favor of the act.

Votes Against Clean Water

Percentage of representatives from Tennessee that voted to weaken clean water laws in the 112th Congress.

H.R. 3409 — The War on Coal Act includes the following three bills plus a provision to prevent an Office of Surface Mining rule that would protect streams from mountaintop removal coal mining impacts.
SCORE: **78%**

H.R. 2401 — The TRAIN Act would create a duplicative interagency panel to study the economic impacts of several standards such as the EPA's mercury rule, causing potential delays for safeguards for up to six years.
SCORE: **78%**

H.R. 2273 — The Coal Residuals Reuse and Management Act would stop the EPA's ability to regulate coal ash disposal in favor of a non-enforceable state program.
SCORE: **89%**

H.R. 2018 — The Clean Water Federalism Act would remove the EPA's authority to enforce the Clean Water Act, dramatically weakening clean water protections.
SCORE: **78%**

Overall percentage of votes by Tennessee representatives AGAINST clean water in the 112th Congress



Good, Clean FUN

Two river guides know the economic benefit of clean water

Grym Griswold and John Shores, better known as Uncle Johnny, are the main force behind Uncle Johnny's Nolichucky Hostel and Outfitters in Erwin, Tenn. They see the Nolichucky River as an old friend, one that they're happy to introduce to everyone they meet.

When Shores, an avid kayaker, opened the doors of his hostel for Appalachian Trail hikers in 1998, he recognized that his location next to the Nolichucky gave him an opportunity to serve a greater population of outdoor enthusiasts. Both he and Griswold have spent many days paddling the Nolichucky over the years. The men also make it their business to know the Nolichucky's old habits and the ways it changes.

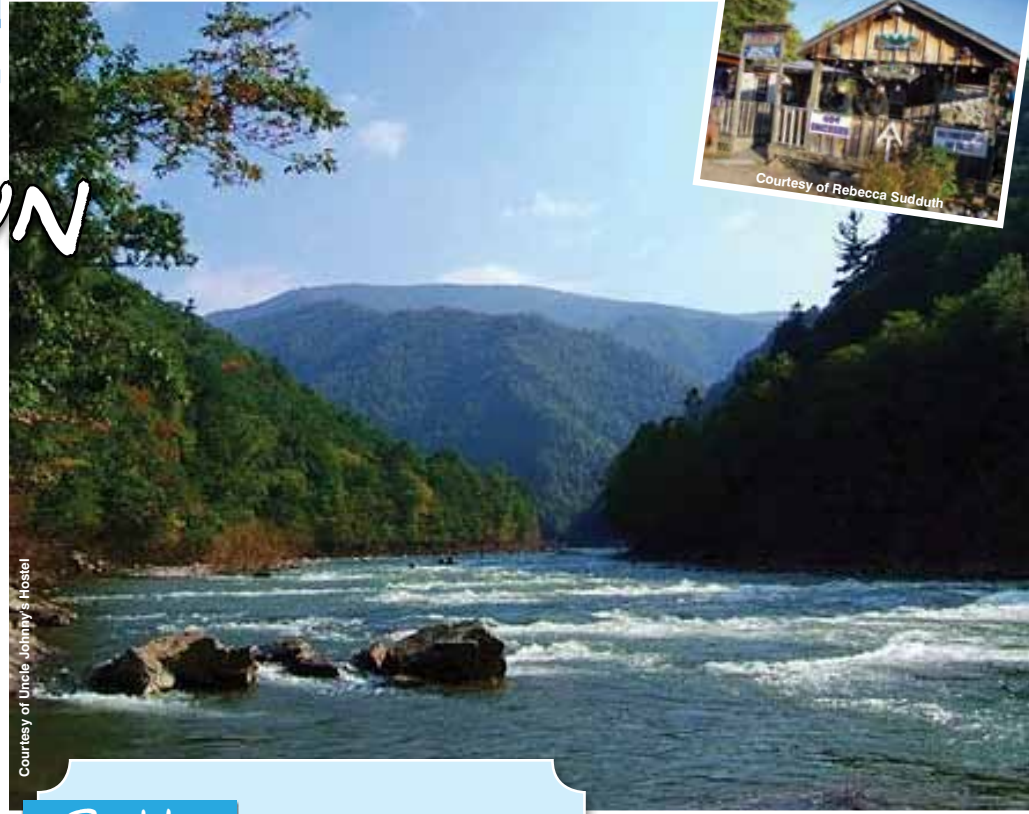
Griswold explains how even a newcomer to the river can note how the Nolichucky has changed from its old ways. "If you come out onto the Noli and look out across the stains on the rocks, you'll see that they're watermarks," Griswold says. "You'll see where how over the past 30 years, the river level has decreased dramatically. The evidence is right there on the stone."

Rural development on the Toe and Cane rivers has impacted the area where the rivers converge into the Nolichucky.

"Quite sadly, the watershed has been damaged, and there's just not that much water coming down now," he summarizes.

In 2002, the Tennessee Department of Environment and Conservation listed different portions of the Nolichucky as impaired for *E. coli* bacteria and high levels of sediment. The pollution was mostly due to poor agricultural practices.

Under the auspices of the Clean Water Act, county, state and federal agencies provided technical and financial assistance to local farmers so they could implement various "best management practices" on their farms, including taking measures



Courtesy of Uncle Johnny's Hostel



Courtesy of Rebecca Sudduth

Problem: Impaired portions of the Nolichucky River from agricultural runoff threatened water quality and the local recreation tourism industry.

Solution: Clean Water Act grant support helped farmers implement "best management practices," reducing runoff and other sources of water pollution.

Result: *E. coli* bacteria and sediment levels subsided, which restored water quality, benefiting a tourism-based economy.

to protect heavy use areas, installing fencing and alternative watering facilities to prevent livestock from entering streams.

Water quality along the Nolichucky gradually improved, prompting TDEC to remove the three Nolichucky River segments from the list of impaired waters in 2008.

"All of the state or government involvement I've seen has been very positive. I'm really impressed with how clean they keep the river here," Griswold says.

Griswold and Shores emphasize the importance of maintaining the fundamental resources that drive the tourism-based economy. They and other Nolichucky River rafting guides run an extensive river clean-up projects when business allows.

"Everyone wants it to be a very attractive resource," says Griswold, who notes that many boaters make it a habit to participate in river clean-ups.

"Most of us were not in that mindset when we first got involved in outdoor adventure. We approve of people going into the wilderness, whether they know these principles or not," says Griswold. "If they keep coming, then they can develop the passion that will lead them to adopt those values. It will come from time simply spent outside."

South Carolina

South Carolina has nearly 30,000 miles of rivers and streams and more than 400,000 acres of lakes and reservoirs. Less than 20 percent of rivers and streams have been assessed by the state, but of those that have been assessed, two-thirds were found to be impaired for one or more water quality criteria. The most common causes of stream impairment are high levels of fecal coliform, dissolved oxygen and acidity. About six percent of rivers and streams once listed as impaired have so far been cleaned up.

In 1972, South Carolina's Congressional delegation voted unanimously to enact the Clean Water Act. During the 112th Congress, on the other hand, 83 percent of votes by South Carolina's representatives on bills impacting clean water laws were in favor of weakening protections.

Votes Against Clean Water

Percentage of representatives from South Carolina that voted to weaken clean water laws in the 112th Congress.

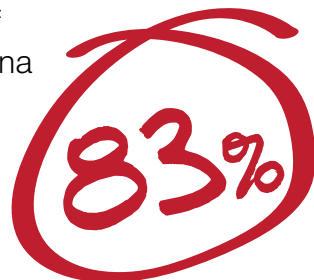
H.R. 3409 — The War on Coal Act includes the following three bills plus a provision to prevent an Office of Surface Mining rule that would protect streams from mountaintop removal coal mining impacts.
SCORE: **83%**

H.R. 2401 — The TRAIN Act would create a duplicative inter-agency panel to study the economic impacts of several standards such as the EPA's mercury rule, causing potential delays for safeguards for up to six years.
SCORE: **83%**

H.R. 2273 — The Coal Residuals Reuse and Management Act would stop the EPA's ability to regulate coal ash disposal in favor of a non-enforceable state program.
SCORE: **100%**

H.R. 2018 — The Clean Water Federalism Act would remove the EPA's authority to enforce the Clean Water Act, dramatically weakening clean water protections.
SCORE: **83%**

Overall percentage of votes by South Carolina representatives AGAINST clean water in the 112th Congress



Courtesy of Hickory Hill Farm

Problem: Fecal coliform bacteria, phosphorus and decreased oxygen levels were degrading Stevens Creek, making the water unsuitable for aquatic life or drinking water.

Solution: Dairy farm implemented pasture grazing management, fenced off streambanks and providing alternative water sources for livestock, planted vegetation creekside. Other farms implemented other agricultural best management practices.

Result: Pasture grazing management and animal fencing significantly reduced concentrations of fecal coliform bacteria.

Cleaning Up the Creek

A farmer's commitment to improving water quality

Watson Dorn runs Hickory Hill Farm and hails from a long line of South Carolina farmers dating back to 1774.

So when the Stevens Creek watershed in the South Carolina Piedmont, where the Dorn farm is located, started showing signs of pollution, the Dorn family acted.

"We know that if we don't take care of the land, it cannot take care of us," says Dorn.

The U.S. Environmental Protection Agency found that 85 to 95 percent of the pollutants threatening the Stevens Creek watershed were attributable to agricultural practices. Dorn remembers that a few decades ago, when most of the area's livestock drank directly from the creeks, "the water quality was not what it should have been."

In 1995, with funds allocated through the Clean Water Act, Dorn's community was given a way to improve its streams. The project, led by the Edgefield Soil and Water Conservation District, focused on improving water quality through agricultural "best management practices" at two livestock operations located near the streams, including Dorn's dairy farm.

At the time, Hickory Hill's ponds were predominantly unfenced, alternative livestock watering systems were unfeasible and the farm was subject to weather-related pollution problems.

The rainstorms that watered the grass for Dorn's cows also naturally increased agricultural stream pollution. Heavy runoff often carried large amounts of feed from the commodity sheds, used at farms like Hickory Hill, into nearby Sleepy Creek where pollutants began a

detrimental journey downstream.

"A small family farm can't go out and do a lot of the things that need to be done to improve the environment, even in good economic times," Dorn says. "Once we got around that hurdle, it was a no-brainer."

The Dorn family was able to set its clean-water commitment into action by fencing off their streams and ponds, constructing watering troughs and laying asphalt around the commodity sheds to prevent runoff. And with these better practices, "we no longer have to be concerned about anything from our farm contaminating the streams."

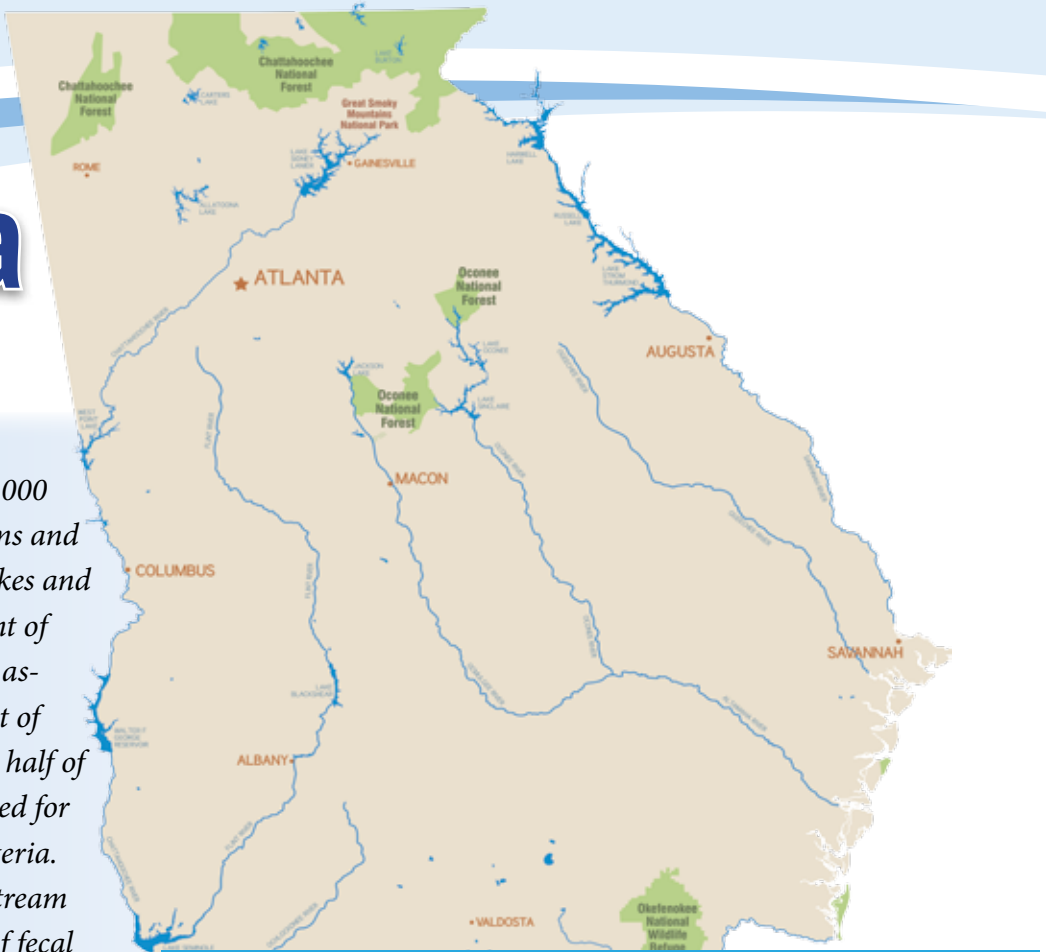
The project was a success, as post-project water quality sampling results showed significant reductions in fecal coliform bacteria downstream at both the poultry and dairy farm stations. On the Dorn's farm, pasture grazing management and animal fencing significantly reduced fecal coliform bacteria counts in the stream.

Dorn's relief is rooted in the invaluable knowledge that his livelihood does not come at the cost of the environment. Overall, he describes the project as "extremely successful," but the pride in his voice suggests that the full scope of success cannot be measured. For Dorn, the benefits go well beyond the improvement in the water quality of the Stevens Creek watershed. Admiring the healthy coats of his cows and the green fields of his farm, he knows he is continuing his family tradition of caring for the land.

What is the greatest benefit of having the Clean Water Act on his side? That's simple, Dorn says: "Peace of mind."

What is the greatest benefit of having the Clean Water Act on his side? That's simple, Dorn says. "Peace of mind."

Georgia



Georgia has more than 70,000 miles of rivers and streams and more than 400,000 acres of lakes and reservoirs. Less than 20 percent of those rivers and streams were assessed by the state in 2010, but of those that have, and well over half of those were found to be impaired for one or more water quality criteria. The most common causes of stream impairment were high levels of fecal coliform, dissolved oxygen and mercury. Just over one percent of impaired rivers and streams have been cleaned up so far.

A number of bills were introduced in the 2012 state legislative session that were designed to weaken clean water protections, however none of those bills were passed into law. Those bills included efforts to fast-track the wastewater discharge permitting process, roll back rules for disposing of septic waste, and weaken the state Environmental Protection Division's enforcement responsibility.

In 1972, Georgia Representative Benjamin Blackburn was the only representative in the Southeast to vote against the Clean Water Act, however the state's delegation in Congress has shifted toward Blackburn's anti-regulatory views since then. In the 112th Congress, 69 percent of votes cast by Georgia's representatives on bills that impact clean water laws were in support of weakening those protections.

Votes Against Clean Water

Percentage of representatives from Georgia that voted to weaken clean water laws in the 112th Congress.

H.R. 3409 — The War on Coal Act includes the following three bills plus a provision to prevent an Office of Surface Mining rule that would protect streams from mountaintop removal coal mining impacts.
SCORE: 77%

H.R. 2401 — The TRAIN Act would create a duplicative interagency panel to study the economic impacts of several standards such as the EPA's mercury rule, causing potential delays for safeguards for up to six years.
SCORE: 62%

H.R. 2273 — The Coal Residuals Reuse and Management Act would stop the EPA's ability to regulate coal ash disposal in favor of a non-enforceable state program.
SCORE: 85%

H.R. 2018 — The Clean Water Federalism Act would remove the EPA's authority to enforce the Clean Water Act, dramatically weakening clean water protections.
SCORE: 75%

Overall percentage of votes by Georgia representatives AGAINST clean water in the 112th Congress



Photos courtesy of City of Griffin



Ditching Storm Water

One man's mission to improve waters for wildlife and communities

Ducks and Styrofoam cups have something in common — at least, for Dr. Brant Keller they do. The director of Public Works and Utilities for the city of Griffin, Ga., Keller is an avid duck hunter, and in visiting many waterways around the country, he often finds ducks and debris competing for the same space.

"Water is a finite source. The water that we're managing is the very same prehistoric dinosaur water, so we've got to manage such a significant resource really well," he says. "It took the Clean Water Act in 1972 to clean up the cesspools we called rivers ... but we have a long way to go."

Following the establishment of the Georgia Stormwater Utility in 1997, Keller brought his determination to the city of Griffin in the Flint River Basin. He quickly found a number of community water containment and quality issues that needed to be addressed. In Griffin's Waterford subdivision, for example, Keller discovered that the drainage system could not handle the amount of runoff it faced during heavy rains.

In order to address this problem, Keller directed the construction of a regional stormwater detention pond, established by a public-private partnership and funded by a county sales tax. Keller's project resulted in several successful projects that utilized grant support through the Clean Water Act for future water quality assessment.

Water quality monitoring in the Flint River Basin included the collection and testing of storm water samples from three different locations in close proximity to the detention pond. The initial

two years of sampling revealed effective trends in the removal of water contaminants and hopeful predictions for the future.

"It's been a win for everyone," Keller says. "The runoff was completely eliminated from the subdivision so that homes were no longer flooded, the developer was also able to utilize the pond for water retention, and overall water quality was improved in the basin."

Problem: Stormwater runoff caused flooding and carried debris into local waterways in Griffin, Ga.

Solution: A series of stormwater detention ponds were created to prevent runoff and water pollution.

Result: Stormwater management prevented floods and improved water quality and wildlife habitat.

Griffin has since constructed two additional stormwater detention ponds and is building a fourth. The series of ponds act as a constructed wetland system, providing habitat for wildlife and reducing nitrogen and phosphorus contamination throughout the watershed.

Keller emphasizes that community education played a critical role in the completion of this project. From the beginning, the public was

educated about the need for mitigating flooding and the importance of community partnerships. Classroom presentations, stream clean-ups and the Adopt-A-Stream initiative were three of the most successful means of citizen involvement, according to Keller.

"It may be a pie-in-the-sky hope," says Keller, "but if we could get both environmentalists and politicians to sit at the same table and come to a logical conclusion, we could provide a better resource for everyone at the end of the day."

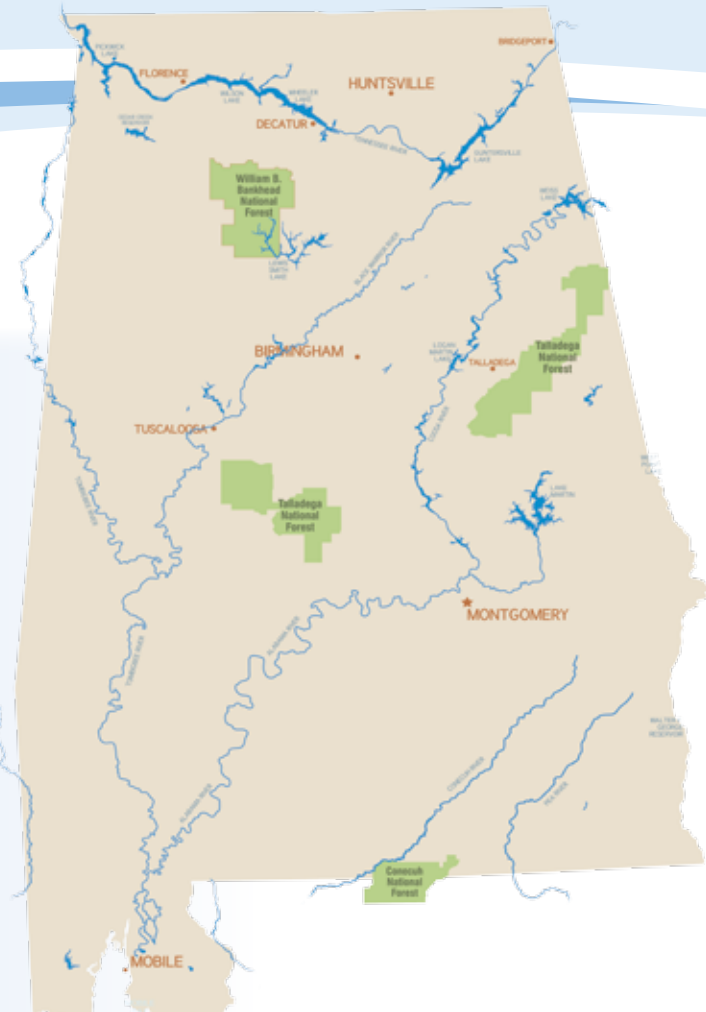
"By promoting the importance of watershed management, the relationship between the Griffin community and the entire river basin has been improved," Keller says. And when ducks don't have to compete with debris for space, wildlife, hunters and the communities they live in all benefit.

Alabama

Alabama has more than 75,000 miles of rivers and streams and nearly 500,000 acres of lakes and reservoirs. Less than 15 percent of those rivers and streams were assessed by the state in 2010, with one-third of those found to be impaired for one or more water quality criteria. The most common causes of stream impairment were high levels of sediment, fecal coliform bacteria, oxygen depletion and mercury. Just 50 miles of impaired rivers and streams have been cleaned up so far.

The Alabama Department of Environmental Management has been widely criticized for failure to respond to citizen complaints, inspect sites with Clean Water Act permits and issue penalties to violators. The state has also been criticized for not providing adequate funding to ADEM to hire enough inspectors to keep track of the tens of thousands of permits in the state. In 2010, 14 organizations petitioned the U.S. Environmental Protection Agency to revoke Alabama's authority to regulate water permits.

Alabama's representatives in the 112th Congress had the most consistent record of voting in favor of bills to weaken clean water laws of any state in the Southeast, voting against clean water 87 percent of the time. The state's representatives were not always so hostile to water regulations, having unanimously voted in favor of the Clean Water Act in 1972.



Votes Against Clean Water

Percentage of representatives from Alabama that voted to weaken clean water laws in the 112th Congress.

H.R. 3409 — The War on Coal Act includes the following three bills plus a provision to prevent an Office of Surface Mining rule that would protect streams from mountaintop removal coal mining impacts.

SCORE:86%

H.R. 2401 — The TRAIN Act would create a duplicative interagency panel to study the economic impacts of several standards such as the EPA's mercury rule, causing potential delays for safeguards for up to six years.

SCORE:86%

H.R. 2273 — The Coal Residuals Reuse and Management Act would stop the EPA's ability to regulate coal ash disposal in favor of a non-enforceable state program.

SCORE:86%

H.R. 2018 — The Clean Water Federalism Act would remove the EPA's authority to enforce the Clean Water Act, dramatically weakening clean water protections.

SCORE:86%

Overall percentage of votes by Alabama representatives AGAINST clean water in the 112th Congress

87%

Fit for a Swim, Again

A community helps restore Flint Creek

Less than a mile from Flint Creek in Morgan County, Ala., Hal Lee farms the land his family has owned for more than 70 years. Originally hog farmers, his family switched to dairy farming in the 1950s. Today, Lee still raises cattle alongside his son who runs a poultry farm on the family's property.

With a degree from Auburn University and six years of military service, Lee combines civil service and efficiency in his work. He knows that clean water plays a critical role in better farming and pursues water quality improvement in both of his roles as north vice president of the Alabama Farmers Federation and chairman of the board for the Flint Creek Watershed Conservancy District.

Lee fondly remembers the summer days when he would go swimming in the creek after long hours of farm work. When he returned home from military service in 1975, however, that was no longer an option.

Since the 1950s, Flint Creek had been polluted by stormwater runoff from agricultural and urban areas, making the creek unsafe for recreation and wildlife. In 1994, a Watershed Conservancy District was established and plans were developed to clean up the creek with the assistance of federal and state agencies, as well as local soil and water conservation districts. Funding for the project included grant money from the U.S. Environmental Protection Agency through the Clean Water Act, U.S. Department of Agriculture, and corporate donors.

85 percent of the farmers in the area received funds from the EPA to apply "best management practices" on their farms. Farmers created dry stack structures to control animal waste, installed dead bird composters to kill bacteria, and adopted no-till farming to minimize erosion.

"We showed them what the



Problem: Rural and urban runoff contributed to reduced oxygen levels in the lower part of the Flint River in Alabama.

Solution: Farmers were educated and funded to institute agricultural best management practices.

Result: Oxygen levels were improved in the river, and in 2006, a 28-mile segment of the Flint River was removed from the list of impaired waters.



problem was and how to fix it, and had tremendous cooperation with the people involved in the county," Lee says. "When people are educated and they know what needs to be done, they will step up and do the job."

At Lee's cattle farm, areas near the heavily-used watering troughs were lined with gravel to prevent bare muddy patches from washing downhill during rain, improving drainage and preventing erosion to keep animal waste from entering the creek.

Through the use of these "best management practices," Flint Creek came back to life. The duckweed and algae that choked the creek as a result of pollution began to disappear. The difference was striking as the water turned from brown to clear.

Describing the educational outreach aspect of the project, Lee says that "people's attitude changed after being educated because they see the need for clean water. The Flint Creek community today is more environmentally conscious than they have ever been."



Photos courtesy of Hal Lee

ACKNOWLEDGEMENTS

ALABAMA

Brad Bole — Strodes Creek Project Coordinator, Morgan County Soil and Water Conservation District
Hal Lee

GEORGIA

Dr. Brant Keller — Public Works Director
Storm Water Utility Division

KENTUCKY

Paulette Akers — Kentucky Division of Water
Shanda Cecil — Director, Strodes Creek Conservancy
John Jones
Kentucky Waterways Alliance

NORTH CAROLINA

Bob and Jill Kinser
Jim Summers — Department Head / District Soil Conservationist, Iredell County Soil & Water Conservation District

SOUTH CAROLINA

Watson Dorn & The Dorn Family — Hickory Hill Farm

TENNESSEE:

John "Uncle Johnny" Shores and Grym Griswold — Uncle Johnny's Nolichucky Hostel and Outfitters
Matthew Denton — Natural Resource Conservation and Development Council

VIRGINIA

Karen Forget — Executive Director, Lynnhaven River NOW
Hap Chalmers — Lynnhaven Oyster Company and Lynnhaven River NOW

WEST VIRGINIA:

Timothy Craddock — WV Department of Environmental Protection
Eddy Grey — President, Morris Creek Watershed Association
Bob and Wanda King

Special thanks to: Hallie Carde, Tabitha Lunsford, Rachel Simon, Erin Burks

REFERENCES

The Clean Water Act: Making A Difference for Real People for Over 40 Years

- 1) U.S. Environmental Protection Agency, 2008. *EPA's 2008 Report on the Environment*. National Center for Environmental Assessment, Washington, DC; EPA/600/R-07/045F. Available online at <http://www.epa.gov/roe>
- 2) U.S. Environmental Protection Agency. *40 Years of Achievements, 1970-2010*. <http://www.epa.gov/40th/achieve.html>
- 3) *Ibid.*
- 4) Duhigg, Charles. "Toxic Waters: Clean Water Laws Are Neglected, at a Cost in Suffering." *New York Times*. September 12, 2009. <http://www.nytimes.com/2009/09/13/us/13water.html>
- 5) "America's Sewage System and the Price of Optimism." *Time Magazine*. August 1, 1969. <http://www.time.com/time/magazine/article/0,9171,901182-1,00.html>
- 6) American Society of Civil Engineers: Report Card for America's Infrastructure. *Wastewater: Report Card for America's Infrastructure*. <http://www.infrastructurereportcard.org/fact-sheet/wastewater>
- 7) U.S. Environmental Protection Agency, 2009. "EPA's Healthy Watershed Initiative." Document number EPA841-F-09-001.

Dirty Politics and the Clean Water Act

All descriptive information and voting records on House bills provided through <http://www.thomas.loc.gov>

State-specific Water Information

Provided through U.S. Environmental Protection Agency's National Summary of Impaired Waters and TMDL Information website at http://ofmpub.epa.gov/tmdl_waters10/attains_nation_cy.control?p_report_type=T



AppalachianVoices

Headquarters: 171 Grand Boulevard · Boone, N.C. 28607 ... (828) 262-1500
appalachianvoices.org · appalachianwaterwatch.org · redwhiteandwater.org

Clean Water