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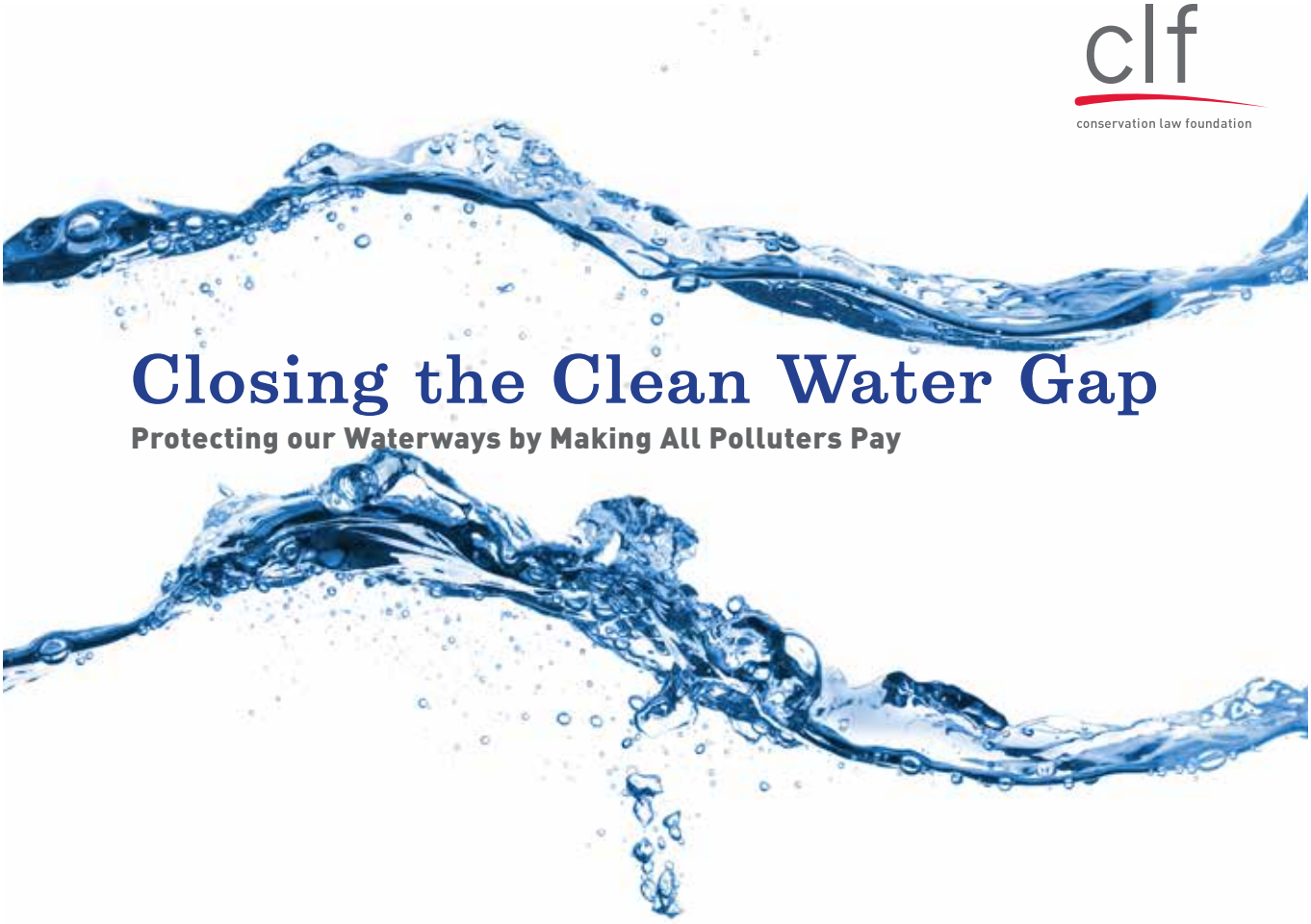

Closing the Clean Water Gap

Protecting our Waterways by Making All Polluters Pay

The students of Dr. Jorge Alvarez High School in Providence, Rhode Island, are worried about the pond in their school's backyard — and with good reason. The largest natural body of fresh water remaining in Providence, Mashapaug Pond is severely polluted. It's off limits for wading, swimming, drinking, and eating the fish. A sign on its bank reads, "Mashapaug Pond is Sick."

Alvarez High School is built on the site of the former Gorham Manufacturing Company, whose chlorinated solvent and heavy metal waste contaminated the land, groundwater, and the pond. Work to remove toxic sediment from the pond is underway, but Mashapaug's woes are far from over as, today, uncontrolled storm runoff is proving to be an even more formidable foe.

Mashapaug Pond is surrounded on all sides by pavement. When it rains, storm runoff from neighboring businesses and homes sends a filthy soup of gasoline, oil, pet waste, chemicals, and road salt into the pond. That soup then flows into the more well-known water bodies downstream – from the ponds in Roger Williams Park to the Pawtuxet River to Narragansett Bay. According to Amelia Rose, Co-Director of the Environmental Justice League of Rhode Island, as much as 60 percent of the phosphorus pollution in the ponds in Roger Williams Park – visited by more than a million people each year – comes from Mashapaug Pond.

A sign at Mashapaug Pond warns visitors against fishing, swimming, or even wading in the polluted water.

Despite their known contribution to the pond's pollution, none of the neighboring property owners is required to do anything about it. So they don't. Instead, the cash-strapped cities of Providence and Cranston and, by extension, taxpaying city residents, bear the entire responsibility – and cost – of managing stormwater flow into the pond.

Fortunately, a band of dedicated community members – including students, residents, some businesses, and local nonprofit organizations – have come together to save Mashapaug Pond. Organizations like Rose's Environmental Justice League of Rhode Island, the Urban Pond Procession, and Groundwork Providence are augmenting the City's efforts with grassroots activism and education, including monitoring of the ongoing industrial site cleanup and implementing small-scale green infrastructure projects funded by grants and private donations.

Will it be enough to restore Mashapaug Pond to health? Rose doesn't think so. "Our work is important, but it feels like a drop in the bucket," she says. "Businesses can help solve this problem. We need a systemic approach to make a real difference in water quality and public safety."

Cash-strapped cities of Providence and Cranston and, by extension, taxpaying city residents, bear the entire responsibility – and cost – of managing stormwater flow into [Mashapaug Pond].

It's easy to take clean water for granted. Whether turning on the tap to fill a glass, jumping into a lake on a hot summer day, or eating freshly caught fish, we expect that our water will refresh – rather than harm – us.

So vital is clean water to our health, our economy, and our communities that its protection is deeply embedded into our society, from our laws to our taxes.

It may come as a surprise, then, that a Mashapaug Pond exists in virtually every urbanized community in the country.

"Our clean water bubble is bursting," says Christopher Kilian, Vice President and Director of Conservation Law Foundation's Clean Water and Healthy Forests Program. "Overdevelopment and urban sprawl – and with them roads, parking lots, driveways, and more and more pavement – have overtaken the natural landscape and created the greatest challenge to clean water in this country in a generation."

The systems of gutters, pipes, and drains that were built over the last 50 to 100 years were designed to direct rainwater and snowmelt from streets and sidewalks directly into water bodies. No one anticipated then that the surrounding land would one day be covered over by so much pavement, turning those systems into greased chutes for harmful bacteria and pollution, or that they would be overwhelmed by the volume and intensity of storms fueled by a changing climate.

"The ways we manage urbanization's effects on clean water have not kept up with the pace of development, the science, or the technology," continues Kilian. "Our clean water laws and how they're enforced, the infrastructure and how it's designed, the level of investment needed and how we pay for it – all need to change if we are to continue to enjoy clean water and everything that means to our quality of life."

We take clean water for granted on a hot summer day, but stormwater pollution is damaging waterways across New England.

In the following pages, we'll look more closely at one of those needed changes: our clean water laws and how they're enforced, specifically, the need to close a significant gap in those laws that allows tens of thousands of polluters to avoid the regulation of, and the costs to manage, their polluted runoff.

Pollution, Pavement, and Regulatory Gaps

Stormwater runoff is one of the largest sources of water pollution in the United States. In New England alone, it is "a major cause of water quality impairment," according to the Environmental Protection Agency (EPA). In New Hampshire, stormwater contributes to more than 80 percent of the state's water pollution. In Rhode Island, up to 75 percent of beach closures annually stem from stormwater pollution and related sources.

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Stormwater rushing across paved surfaces picks up chemicals, trash, and other pollution, which then pours into rivers, lakes, and streams.

The origins of this polluted stormwater problem are easy to trace: For a generation, acre by acre, in cities and towns throughout the United States, we have been eliminating our best defense against water pollution – the natural landscape. Once, our predominant land cover of forests, wetlands, and meadows would have absorbed and filtered rainwater, preventing flooding and replenishing vital underground aquifers. But many of those green spaces have been replaced with pavement. The most commonly used materials, asphalt and concrete, are impervious, meaning that when rainwater hits these hard surfaces, it rushes off them like water on a mirror – along with dirt, heavy metals, chemicals, nutrients, and other harmful pollutants that collect on them.

All that water – and the toxic brew it carries – drains into gutters, storm pipes, and sewers. From there it flows into streams and rivers, finally emptying into lakes, ponds, and bays. The National Research Council lists urban stormwater as the primary source of pollution for 13 percent of all rivers, 18 percent of all lakes, and 32 percent of all estuaries in the country. This is despite the fact that urban areas cover just three percent of the U.S.

New England has not been immune to this troubling trend. Between 1982 and 1997, the amount of developed land in the Greater Boston area increased by 52 percent – in spite of a growth in population over the same period of only 12 percent. New England's coastal watersheds are the second most developed in the country, with 17 percent of the land area developed – a number that could rise to 30 percent if current rates of development continue. Southern Maine has seen an explosion in development in recent decades – from 1970 to 1990, development there occurred at four times the rate of population increase, and the region is projected to lose hundreds of thousands more acres of forest and farmland to urban development by 2050. The story is similar across all the New England states.

The connection between this increase in impervious land cover and the decline in water quality in urbanized areas is well documented. A large and growing body of data provides a detailed picture of how certain types of development, like shopping centers, office parks, and even hospitals and universities – and their many parking lots – contribute to water pollution, which pollutants from those properties are the main offenders, and what their impact is on specific water bodies nearby.

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Remarkably, despite this wealth of information showing where pollution is coming from and what it's doing to nearby waterways, some of these biggest contributors to the problem are not legally required to control the increasing volume of runoff from their properties.

The impact of this regulatory lapse is being felt in urban and suburban communities throughout the country and in New England, where many iconic and significant

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waterbodies are suffering the effects of pollution. As a result, they no longer contribute to – and too often detract from – the quality of life of those communities. From boil water orders, to fish advisories, to beach closures, the effects of stormwater pollution, particularly after a heavy rain, have health and economic implications for everyone from the source to the sea.

Shopping malls, office parks, and other commercial sites – with their flat roofs and huge parking lots – cause stormwater pollution, but they aren't required to do their fair share to clean it up.

A proactive, regional approach is required to ensure that the laws enacted to guarantee clean water are effectively holding the biggest polluters responsible.

New England is on the forefront of solving the stormwater problem. Over the past several years, Conservation Law Foundation has challenged the gap in the law that gives major polluters a free pass. The result? Groundbreaking protections from polluted runoff discharged by private properties for a handful of waterbodies in Vermont, Massachusetts, and Maine.

Still, addressing such a pervasive national problem on what is currently a case-by-case approach is a slow and daunting task – and a barrier to real progress. A proactive, regional approach is required to ensure that the laws enacted to guarantee clean water are effectively holding the biggest polluters responsible.

Breaking Down the Law

The federal Clean Water Act authorizes EPA and states to require that *any* property owner sending pollution directly into U.S. waters – including runoff from their property that gets channeled into municipal storm pipes and drains – must have a permit. EPA's National Pollutant Discharge Elimination System (NPDES) permitting program establishes limits on exactly how much pollution a business can legally discharge and still maintain water quality standards, and requires that a plan be put in place to ensure those standards are maintained.

EPA didn't issue its first set of rules regulating stormwater through the permitting program until 1990, after Congress amended the Clean Water Act to require it. Still, today, only larger municipalities and industrial and construction sites are explicitly required to have a permit; everyone else is covered by a catchall provision that requires EPA to regulate other sites on a case-by-case basis.

"Everyone else" is exactly those kinds of commercial and industrial developments – shopping centers, car dealerships, big box stores, office parks, hospitals, and universities – that are among the biggest sources of stormwater pollution. With tens of thousands of these kinds of sites in New England alone, regulating them on a case-by-case basis is impractical at best, impossible at worst.

That means the biggest contributors to the stormwater problem are getting away without contributing to the solution. Ultimately, municipalities end up bearing the brunt of the responsibility for the planning and cost of managing stormwater. Indeed, cities and towns play a critical role in reducing stormwater pollution – maintaining stormwater infrastructure, clearing roads and storm drains of debris, and minimizing runoff from municipal property. But, holding cash-strapped cities and towns responsible for managing the entire problem isn't fair or practical.

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Small Waters, Big Victory in Vermont

In 2003, Conservation Law Foundation took action to restore five brooks in Burlington, Vermont, declining due to polluted stormwater runoff – and impacting Lake Champlain downstream. CLF's petition to the Vermont Agency of Natural Resources called on the agency to use a little known provision of the Clean Water Act: Residual Designation Authority, or RDA. The provision requires the Environmental Protection Agency or, in this case, its state-level delegate agency, to hold unregulated private properties that contribute to the problem accountable for controlling their runoff.

After more than five years of legal wrangling, in 2009, success came when some 400 commercial facilities and property owners in the Burlington area were required to develop legally binding plans to clean up their stormwater runoff into the five brooks. It was the first ruling of its kind in the country – one that set a critical precedent for future stormwater regulation.

In Rhode Island, the city of Providence, for example, has 20,000 catch basins that must be maintained as part of their stormwater management plan, but only two trucks to maintain them. Federal requirements to implement stormwater management plans don't come with corresponding sufficient funding for cities and towns. States and ratepayers help to foot the bill. When there isn't enough money to do the job from those sources, the job doesn't get done.

Testing EPA's Authority

The city of South Portland, Maine, feels like many urbanized areas in the Northeast. Extensively developed with a large mall, movie theaters, chain stores, restaurants, medical centers, and office parks lining a major highway, it attracts people from all over Southern Maine and beyond. In the middle of all this development flows Long Creek. Once a thriving home to brook trout and other wildlife, this small stream became the dumping ground for millions of gallons of polluted stormwater running off of roofs, roads, and parking lots. As a result, Long Creek's health – and that of nearby Clarks Pond, the Fore River, and Casco Bay downstream – had become severely degraded.

In 2008, Conservation Law Foundation set its sights on addressing this flagrant example of the impact commercial development and uncontrolled runoff have on an urban waterway. CLF's petition relied upon EPA's Residual Designation Authority to obligate the agency

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Part of Maine Mall Road was repaved with pervious pavement, part of a broader set of green infrastructure projects that are helping to restore Long Creek.

to regulate a new class of properties in the Long Creek watershed because of their known contributions to the stream's pollution.

The petition was successful, with EPA noting in its decision that "the expansion of impervious cover has resulted in increased volume and frequency of stormwater runoff, a decline in Long Creek water quality, and violations of Maine's water quality standards." In 2009, EPA began requiring all landowners in the vicinity of Long Creek with one or more acres of impervious cover – approximately 90 percent of nearby properties – to begin controlling their polluted runoff. The ruling was the first in the country to tackle the gap in regulation that allows certain facilities to get away with discharging polluted stormwater.

The ruling ultimately gave rise to the Long Creek Watershed Management District, which was established through a grant from EPA and the Maine Department of Environmental Protection. The Management District gave property owners a unique – and more cost-effective – opportunity to pool resources with partners rather than applying for individual permits. Its innovative structure spreads the costs of implementing a stormwater management plan across its membership, with incentives that lower costs over time for reduced runoff.

Today, the partnership comprises 83 private landowners, 3 municipalities, 2 state entities and one quasi-municipal entity. In the five years since it was formed, the Long Creek Restoration Project has completed $4.6 million in projects, including improved drainage systems, the re-introduction of naturally absorbent vegetation, and the installation of state-of-the-art porous pavement on a large section of Maine Mall Road. The result is being felt throughout the watershed as wildlife returns, water temperatures decrease, and water quality is restored.

CLF's Chris Kilian points to Long Creek as one of the most promising examples of the progress that can result when public and private sectors work together to prioritize clean water. "Necessity was the mother of invention in Long Creek," notes Kilian. "Regulation combined with real cost savings to area businesses in joining the partnership and reducing their stormwater runoff created a shared accountability that has led to innovative and cost-effective approaches to solving the problem. In a welcome and successful turn of events, businesses went from causing the problem to being part of the solution."

In a welcome and successful turn of events, businesses went from causing the problem to being part of the solution.

The Case for Creating a New Class of Polluter

Despite the successes in Maine and Vermont – and the overwhelming evidence that stormwater runoff from unregulated sites is harming urban waterways – you can count on one hand the number of cases in which EPA has fulfilled its obligation to regulate those businesses.

In an effort to force a more proactive, regional approach to stormwater regulation, in July of 2013, CLF, American Rivers and the Natural Resources Defense Council

petitioned EPA to designate commercial, industrial, and institutional sites in three major regions of the country as a new class of polluter – a designation that would require these kinds of sites to finally control their stormwater runoff.

The three petitioners argued that in New England, the Mid-Atlantic, and Western regions, EPA's failure to require these polluters to control runoff decreased the likelihood of ever improving the water quality in those regions. The EPA's case-by-case, reactive approach to regulation, they said, placed an unfair burden on cities, towns, and, ultimately, taxpayers, to foot the bill.

With an already destructive and pervasive problem, can we afford to tackle it one water body at a time?

Almost a year later, in March 2014, EPA finally responded. While the agency denied the petitions for the Mid-Atlantic and the Western States outright, it left the door open for a more proactive approach here in New England, although still a painfully slow one. Instead of approving a solution that would hold these unregulated polluters regionwide to account, EPA chose to approach the problem one polluted water body at a time. By EPA's own admission, the process of evaluating New England's 1,711 impaired waterbodies on a case-by-case basis will be a daunting task, and take considerable time and resources.

So the question remains: With an already destructive and pervasive problem, can we afford to tackle it one water body at a time? And, with climate change already compounding the problem, how long do we have?

Transforming a flat roof into a green one helps absorb stormwater before it reaches our waterways – an innovative way for businesses to help curb their pollution.

These are thorny questions for anyone who values our rivers, lakes, streams, and coastlines for the role they play in the quality of life of our communities. But one thing is certain: spreading responsibility for managing stormwater pollution across everyone who contributes to it is the cheapest, most equitable, and most effective way to solve the problem.

What's Next

Conservation Law Foundation and its partners across the region and the country are continuing to press for the shared accountability and investment that will restore the region's and the nation's rivers, lakes, streams, and ponds to health for all to enjoy.

Building on government-funded studies and encouraged by the door left open by EPA in its recent decision, CLF is assessing the viability of current regulatory programs to focus on larger watersheds across New England, such as Lake Champlain, Long Island Sound, Narragansett Bay, and Great Bay. In contrast to EPA's one-waterbody-at-a-time tactic, this broader approach would encompass all of the impaired rivers, lakes, and streams that flow through one of these larger watersheds – and the sizeable land area around them would include many more commercial, industrial, and institutional sites that are contributing to pollution problems. At the same time, CLF is redoubling efforts to protect individual waterways such as Mashapaug Pond, so that progress can still be made even while the organization continues to fight for innovative region-wide solutions.

Change is Possible

Spanning 80 miles, the Charles River meanders through 23 communities before ending in Boston Harbor. As the densely populated area experienced an explosion of development over the past 75 years. The Charles suffered from wanton pollution from industrial sites, riverside landfills, and outdated sewage treatment plants.

But hearing Kate Bowditch talk about the Charles is like listening to a proud mother. Bowditch has been with the Charles River Watershed Association (CRWA) for 20 years and has seen (and helped bring about) big changes in the river during those two decades. Thanks to the passage of the Clean Water Act in 1972, the landmark 1983 lawsuit brought by Conservation Law Foundation against federal and state officials to clean up Boston Harbor, and CRWA's own research and advocacy, the Charles – once one of the nation's dirtiest rivers – is returning to health. Native fish have made a dramatic comeback, along with bald eagles, heron, and river otters. And, every June since 2010, hundreds of people flock to the river for Charles River Swimming Club's celebratory One Mile Swim.

Still, Bowditch acknowledges, "the gains have only gotten us to a B grade." Standing in the way of the next level of achievement, she says, are high levels of phosphorus in the water. A nasty pollutant, phosporus encourages blue-green algae growth, which can suck up enough oxygen to kill off fish and other aquatic life. Blue-green algae are also toxic, creating a hazard to human health.

Once one of the country's dirtiest rivers, the Charles River is cleaner and healthier today. But stormwater pollution continues to take a toll.

Much of the phosphorus comes from stormwater runoff from nearby commercial, industrial, and residential properties. But the law lets most of those properties get away with not controlling this pollution.

Beginning in 2008, EPA has attempted to stem the phosphorus problem by requiring private properties with two acres or more of paved surfaces to start managing their runoff. In 2010, EPA launched a pilot stormwater management program focused on the towns of Franklin, Bellingham, and Milford in the Upper Charles. But private property owners pushed back, stalling the process in other communities to the point where a watershed-wide program has yet to be implemented.

"Requiring commercial, industrial, and institutional landowners to do their fair share is the only way we will achieve water quality standards in the Charles," Bowditch says. In spite of the delays, Bowditch is optimistic that the remaining hurdles to clean water in the Charles can be cleared. After all, she's already seen the river rescued from its lowest point. "Change is possible."

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