

The Facts about Stormwater

Managing stormwater runoff protects the quality of fresh and salt water bodies and the animals that inhabit them, and drinking water sources. It also reduces flooding risk.

The Need

Unlike drinking water and wastewater systems that are largely driven by population growth and economic development, stormwater is dictated by rainfall frequency, duration and intensity. Historically, municipal stormwater management systems were designed and constructed to move rainwater away from streets and buildings as quickly as possible to prevent localized flooding and damage to the built environment. Only over the past two decades has the water quality component of stormwater runoff influenced action. Unfortunately, while existing stormwater collection systems in urban areas effectively move water rapidly to lakes, rivers and streams, they are ill-suited to improve water quality prior to discharge. Massachusetts cities and towns are grappling with how to manage stormwater quality using systems designed for a different purpose.

Over the last decade, the federal Environmental Protection Agency (EPA) has required cities and towns to maintain tighter control of municipal storm drainage systems. Increasingly, regulators are pressing communities to manage and regulate stormwater on private property. Potential federal stormwater regulations could add \$18 billion in required system investment in Massachusetts over the next 20 years, according to the Massachusetts Water Infrastructure Finance Commission (WIFC). That's on top of the \$21.4 billion gap the WIFC estimated between our drinking water and wastewater infrastructure needs and the available sources of funding.

The Process



Stormwater runoff is generated when precipitation from rain and snowmelt flows over land or impermeable surfaces (i.e., asphalt) and is not absorbed into the ground. The runoff accumulates debris, chemicals, sediment or other pollutants that could adversely affect water quality if it is discharged untreated. The primary method to control stormwater discharges is the use of best management practices (BMPs), such as street sweeping, to remove pollutants before they are picked up by runoff, or to minimize the amount of runoff. Techniques to manage the flow or reduce contaminants include low impact designs such as detention/retention structures or basins, sediment chambers, vegetative buffers, and roof treatments. Some of this infrastructure is installed and maintained by the municipality; some is built and maintained by private owners, per local building and zoning codes.

Because most stormwater discharges are considered point sources, they are covered under a National Pollutant Discharge Elimination System (NPDES) permit from the EPA. The NPDES program regulates discharges of pollutants to U.S. waters through permits under the federal Clean Water Act (CWA). The EPA now requires communities of 10,000 or more with Municipal Separated Storm Sewer (MS4) Systems to develop a stormwater management program, based on a growing understanding of environmental impacts. Most cities and towns have implemented their programs, but are anticipating new, more stringent permit conditions from EPA that will significantly increase the cost of stormwater management.

The Challenges

Cost burden: Design and construction of a stormwater management system vary significantly depending on location. A generally accepted average cost is \$50,000 per acre, or \$32 million per square mile (640 acres). Unlike when the CWA was passed in 1972, providing up to 75 percent federal and state grant assistance to communities, today's program places the financial burden squarely on the ratepayer.

Regulatory burden: The EPA and Massachusetts Department of Environmental Protection (MassDEP) are imposing increasingly stringent regulations without regard to cost or discernable results, or to municipalities' unique circumstances. Regulators also interpret the CWA more broadly than it was envisioned in the 1970s, issuing numerical water quality limits. This is counter to CWA language stipulating that municipal stormwater systems must remove pollutants to the "maximum extent practicable" – a term undefined in the CWA but which establishes that there are cost and reasonableness considerations to stormwater pollutant removal. The Coalition believes EPA frequently goes well beyond "practicable" in many of its requirements and needs to reconsider its timelines, expectations, and stipulations. Communities are more likely to invest the necessary resources for implementation if they are presented with a permit that is within their means and advances continual improvement.

Poor process/communication: EPA issues NPDES permits with little dialogue or genuine involvement in the process by affected communities, an approach that is counter to the long-term planning and holistic thinking necessary for a sustainable approach.

Lack of meaningful benefits: Regulations often are imposed without evidence of meaningful, measurable benefits that will be derived through compliance with mandated rules.

Coalition Recommendations

The Coalition recognizes the importance of stormwater management to maintaining environmental health and designated uses of Massachusetts waterways. The regulatory agencies and the regulated communities share a common mission – to ensure the health and quality of our cities and towns and their natural resources. To accomplish these goals, communities must balance environmental programs with other needs and responsibilities and implement them in a fashion that is both feasible and financially responsible.

In addition to providing more funding for cities and towns, Massachusetts needs an enlightened permitting approach. A fair and constructive process will produce meaningful, cost-effective environmental benefits. Such a process is possible if all parties desire to move beyond the status quo. The Coalition offers a number of recommendations that will advance the process of change toward a sensible and reasonable new paradigm for CWA permitting, including:

- **Open dialogue with regulators and stakeholders** that addresses the environmental issues, establishes realistic goals and, most importantly, focuses on possible solutions.
- **A holistic approach to solutions to water quality problems** encountered in rivers and bays, looking at the entire watershed and all impacts; generic science or one-size-fits-all approaches are inadequate.
- **Coordination of permits across a watershed** (or subwatershed) so that all parties affecting a receiving water are on the same permit schedule, are addressing the same environmental issues, and are given the opportunity to find a group solution to a problem.
- **Longer permit terms** (20 years instead of five), with regulatory review every five years. This would promote true long-term planning and allow communities to manage budgets more effectively.
- **A true cost/benefit analysis** as a prerequisite of any NPDES permit.
- **Massachusetts taking over primacy** for CWA implementation from the EPA, as 46 other states have; MassDEP is more familiar with local issues and better equipped to administer a fair and equitable approach.

- **Incentivizing integrated water resources management** and innovative, practical and holistic approaches to achieve mutual goals with the potential for reduced expenditures. Regulators should reward communities that develop integrated water resource management plans and become more vested and involved in them.

Read more in the Coalition's white paper, "[The Case for Environmental Regulatory Reform.](#)"

Join the Coalition Today

And make your voice heard! The more members the Coalition has, the more regulators and policy makers will pay attention to our calls for increased funding, regulatory reform and better science. Please join today. Visit the [Coalition website](#) for membership information.

