

# Tapped Out

New York's Clean Water In Peril



ENVIRONMENTAL  
ADVOCATES OF NEW YORK

An analysis of the Sewage Pollution  
Right to Know Act of 2012

## Acknowledgements

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## About Environmental Advocates

Environmental Advocates of New York's mission is to protect our air, land, water and wildlife, and the health of all New Yorkers. Based in Albany, we monitor state government, evaluate proposed laws, and champion policies and practices that will ensure the responsible stewardship of our shared environment. We work, through coalitions and with our advocacy network of more than 47,000 people, to support and strengthen the efforts of New York's environmental community and to make our state a national leader.

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# Tapped Out

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# Executive Summary

New York is renowned for its bountiful and high quality waters which millions rely on for drinking, recreation, and business activity. When people turn on the tap or go for a swim there is a basic expectation the water will not make them sick. Unfortunately, for many people statewide, this is not always the case.

In 2012, the Sewage Pollution Right to Know Act (“the Act”) was signed into law by Governor Andrew Cuomo.<sup>1</sup> The spirit of the law is simple: when potential contamination from raw sewage occurs, the public should be notified. While people have grown accustomed to boil water alerts and the closure of local recreational sites, they often learn of the dangers after-the-fact through the media or upon arrival at a shuttered site.

The Act was meant as a proactive means of disclosing sewage overflow information to potentially impacted people, and drew the spotlight on the root cause: a wastewater infrastructure in dire need of investment.

It is a necessary law because a lack of investment in New York’s drinking and wastewater infrastructure over several decades has created an aging and failing system which leads to an estimated tens of billions of gallons of raw sewage discharged into local waterbodies every year.

However, more than three years after it was signed into law, implementation remains incomplete, with significant inconsistencies in the reporting – or altogether lack of reporting – of discharges and public notice.

The findings in Tapped Out are not an indictment on the experts at the state Department of Environmental Conservation (DEC) responsible for the Act, or wastewater operators who keep the system running for millions of New Yorkers. Instead, findings underscore how a lack of State investment renders it impossible to get at the root of the infrastructure problem, or fully implement a law as basic and common-sense as the Sewage Pollution Right to Know Act.



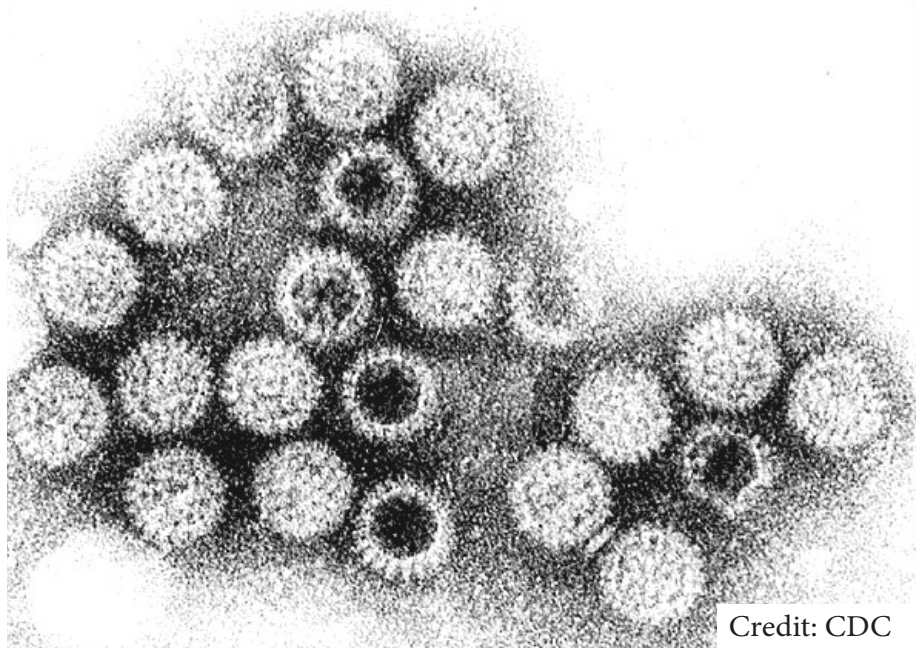


# An Environmental Advocates Analysis of the Sewage Pollution Right to Know Act of 2012

## Public Health Impacts

Sewage is treated to kill waterborne pathogens, parasites, and disease-causing organisms like E. coli, giardia, and Rotavirus (pictured at right).<sup>2</sup>

In a 2004 report issued by the U.S. Environmental Protection Agency (EPA), it was estimated that there are as many as 5,000 cases of illness attributable to recreational exposure to Combined Sewer Overflows (CSOs) and Sanitary Sewer Overflows (SSOs) at state-recognized beaches in the U.S. annually.<sup>3</sup> The EPA acknowledges that these figures are potentially conservative and stated that there are likely a significant number of additional illnesses that occur as a result of exposure at inland and unrecognized beaches.<sup>4</sup> According to a 2013 analysis of beach water samples by the Natural Resources Defense Council (NRDC), 13 percent of New York's samples exceeded the EPA's Beach Action Value (BAV), which determines whether a waterbody is safe for human activity.<sup>5</sup>



Credit: CDC

## Thousands of Sewage Overflows

According to the EPA, most of the time, Combined Sewer Systems (CSS) – where wastewater and stormwater enter the same infrastructure – “are able to transport all of the wastewater to a treatment plant” where it is treated and safely discharged into a local waterbody.<sup>6</sup>

However, rain and spring thaw can overwhelm a system, leading to the discharge of untreated sewage.<sup>7</sup>

# 2,696

*The Number of Reported  
Sewage Overflows Between  
May 2013 and June 2015*

There is also the reality that with climate change, sea level rise and more frequent extreme weather events like Superstorm Sandy, the capabilities of sewage treatment facilities along our waterways will be further compromised.

Statewide, there are thousands of reported spills annually; the true number of all spills and their respective volumes, however, are unknown.

According to the DEC's Sewage Pollution Right to Know database, from May 2013 to June 2015, there were 2,696 sewage overflows, totaling approximately 160 million gallons of sewage discharged in waterbodies throughout New York State.<sup>8</sup>

On average, there were 107 monthly discharge reports during this timeframe.<sup>9</sup>

Available data appears to cover only a fraction of true discharges and volumes happening statewide. For instance, it has been estimated that 28 billion gallons of raw sewage and polluted stormwater is discharged annually into New York Harbor alone.<sup>10</sup>



*The Average Number of Reported  
Sewage Overflows Per Month Between  
May 2013 and June 2015*

### **Severe Underreporting**

In many instances, data is missing, like spill volume, the county where it occurred, and when the overflow was discovered.

The reporting disparities between different regions are enormous. Erie County, for instance, accounts for more than half of all discharges reported. While their local infrastructure is in desperate need of investment, this figure is reflective of their more vigorous reporting practices, and highlights severe underreporting that is likely happening throughout the rest of the state.

For instance, there are five counties without any reported spills in recent years.

Further, the draft regulations do not require full reporting by all communities with Combined Sewer Overflows (CSOs), and expose another area where State financial support has been insufficient: providing technology known as telemetered monitoring which can track and provide real-time sewage discharge information. Therefore, CSO discharges will continue to be underreported until adequate investments are made. In June 2015, the DEC announced it was accepting applications for \$500,000 in grant funding available for communities for monitoring technology.<sup>11</sup>

It has been estimated that approximately 1.2 billion gallons of combined stormwater and sewage is discharged into the Hudson River annually from combined sewer systems in the Capital Region.<sup>12</sup> However, because not all CSO discharges are consistently reported, this estimate is nearly eight times greater than the total statewide volume reported between 2013 to 2015 according to the Sewage Pollution Right to Know database.

In Buffalo, it has been estimated that as much as four billion gallons is discharged into local waterbodies annually and, as noted above, in New York City it is estimated that 28 billion gallons is discharged every year into New York Harbor and the Hudson River estuary.<sup>13</sup>



*58% of All Reported Sewage  
Overflows Statewide Come From  
Just Erie County*

While some of these communities report discharges publicly through alternate systems, the data from the Sewage Pollution Right to Know database fails to provide a complete picture of the impact of raw sewage and the risk to public health and the environment.

## Inadequate Implementation of the Act

When Governor Andrew Cuomo signed the Sewage Pollution Right to Know legislation into law in August 2012, he stated:

“ These new notification requirements will let the general public know when untreated sewage is released in waterbodies, especially swimming beaches and fishing areas. In addition, this new law will also raise awareness to the need for upgrades and maintenance of our state’s wastewater infrastructure. ”<sup>14</sup>

As of February 2016, rules to provide reporting consistently remain in draft form.

The Sewage Pollution Right to Know Act requires 620 Publicly Owned Treatment Works (POTWs) and the operators of 300 Publicly Owned Sewer Systems (POSSs) to report to the DEC, the local health department, and the public within a maximum of two to four hours after a discharge of untreated or partially treated sewage has been discovered.

Originally expected in the fall of 2014, it was not until the summer of 2015 that DEC issued draft regulations for implementation of the Act.<sup>15</sup> The proposed rules fell far short of the law’s intent and contained many loopholes which are addressed in the *Recommendations* section of this report. However, until final regulations are in place, there are no clear requirements on what should be reported, and when, how, and what penalties exist for failing to do so. As such, reporting remains largely voluntary.

### A Lack of Resources

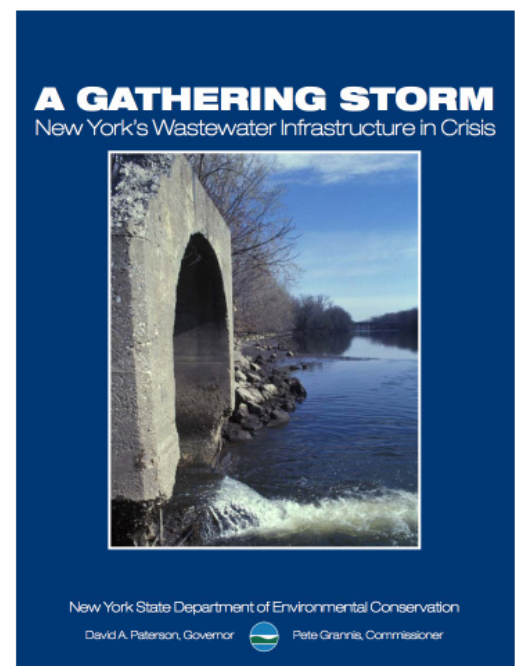
While the full intent of the Sewage Pollution Right to Know law is not currently being met, the implementation of the law has revealed important consequences of our failure to invest adequately in wastewater infrastructure, and environmental law compliance and enforcement. The DEC Division of Water has 30 percent fewer staff and about one-seventh the budget – in today’s dollars – as it did a quarter century ago, even as responsibilities increase.<sup>16</sup> While the experts on staff remain committed and capable, DEC has lost essential capacity both to provide communities with engineering and compliance support, and to enforce clean water laws.

From 2010 to 2014, the number of facilities with water pollution discharge permits in significant non-compliance rose 18.6 percent, while the number of enforcement actions fell 64.2 percent.<sup>17</sup>

Water infrastructure needs in New York State are enormous – the DEC stated in a 2008 report, *A Gathering Storm*, that over the next twenty years \$36 billion will need to be invested in our wastewater infrastructure for all of the necessary repairs and upgrades.<sup>18</sup> In 2015, then-Commissioner Joseph Martens told legislators at a Joint Legislative Budget Hearing on Environmental Conservation that he expects that figure has grown significantly since 2008.<sup>19</sup>

The Sewage Pollution Right to Know database illustrates the consequences of a lack of investment: New York’s wastewater infrastructure is in crisis.

In 2014, Comptroller DiNapoli released a report, *Growing Cracks in the Foundation*, which identifies an \$800 million annual funding gap for sewer infrastructure needs alone.<sup>20</sup> The State must step up to fully implement the Sewage Pollution Right to Know Act, as well as invest at least \$800 million in community grants annually to fix and upgrade New York’s clean water infrastructure, to move us towards a clean water future where the Sewage Pollution Right to Know Act is no longer necessary.





# Sewage Overflows in NY

DEC defines wastewater infrastructure as a community's network for collection, treatment, and disposal of sewage and stormwater.<sup>21</sup>

Sewage overflows can happen when any one or more of the pieces within a network fails. There are two types of sewer systems: combined sewer systems (CSSs) and separate sewer systems.



Credit: Onondaga County

CSSs are networks of pipes that collect both sewage and stormwater runoff in the same pipe that goes to a wastewater treatment facility, with overflow points that discharge directly to waterbodies when the volume of water exceeds system capacity. Separate sewer systems collect stormwater runoff and sewage in separate pipes. Separate sewer systems consist of both a sanitary sewer system, which collects and transports wastewater, and a storm sewer system, which collects and transports stormwater runoff.<sup>22</sup>

## Sanitary System Overflows

Both systems can have overflow events. Sanitary system overflows (SSOs) occur when there are blockages or breaks in the sewer lines. If SSO discharges are frequent, it could mean that a pipe or pump station is broken or cracked, the system is not being properly maintained, or the system is undersized.<sup>23</sup>

In November 2015, a large SSO event took place in Cheektowaga, NY. It was reported that 500,000 gallons of untreated sewage was discharged into the Buffalo River which resulted in a 24-hour alert from the DEC cautioning the public to avoid contact with the river and its water. SSO discharges take place in Cheektowaga because of cracks in aging sewer pipes that allow stormwater to seep in, as well as illegal hookups from residential drainage systems. This inundates the system leading to frequent discharges, in a common scenario known as “infiltration and inflow” – overflows, bypasses and other discharges of raw or partially treated sewage from separate sewer systems during precipitation events.<sup>24</sup>

## Combined Sewer Overflows

New York is regularly plagued by combined sewer overflows, which often occur when the capacity of the system is exceeded during a rain or snowmelt event.<sup>25</sup>

As depicted in the image on the following page, when the system is inundated the raw sewage and stormwater overflows from an outfall into a waterbody before it can be treated at a wastewater treatment facility.

CSSs, an older technology for handling wastewater, are typically found in older cities and villages. Newer cities are usually designed with separate sewer and stormwater systems.<sup>26</sup> Combined sewer systems are found throughout New York State, except on Long Island.

According to DEC, there are approximately 937 CSO outfalls in New York, and about 10 percent of CSOs in the U.S can be found in New York.<sup>27</sup> Without proper abatement and management, CSOs can spell big water quality problems for New York State.



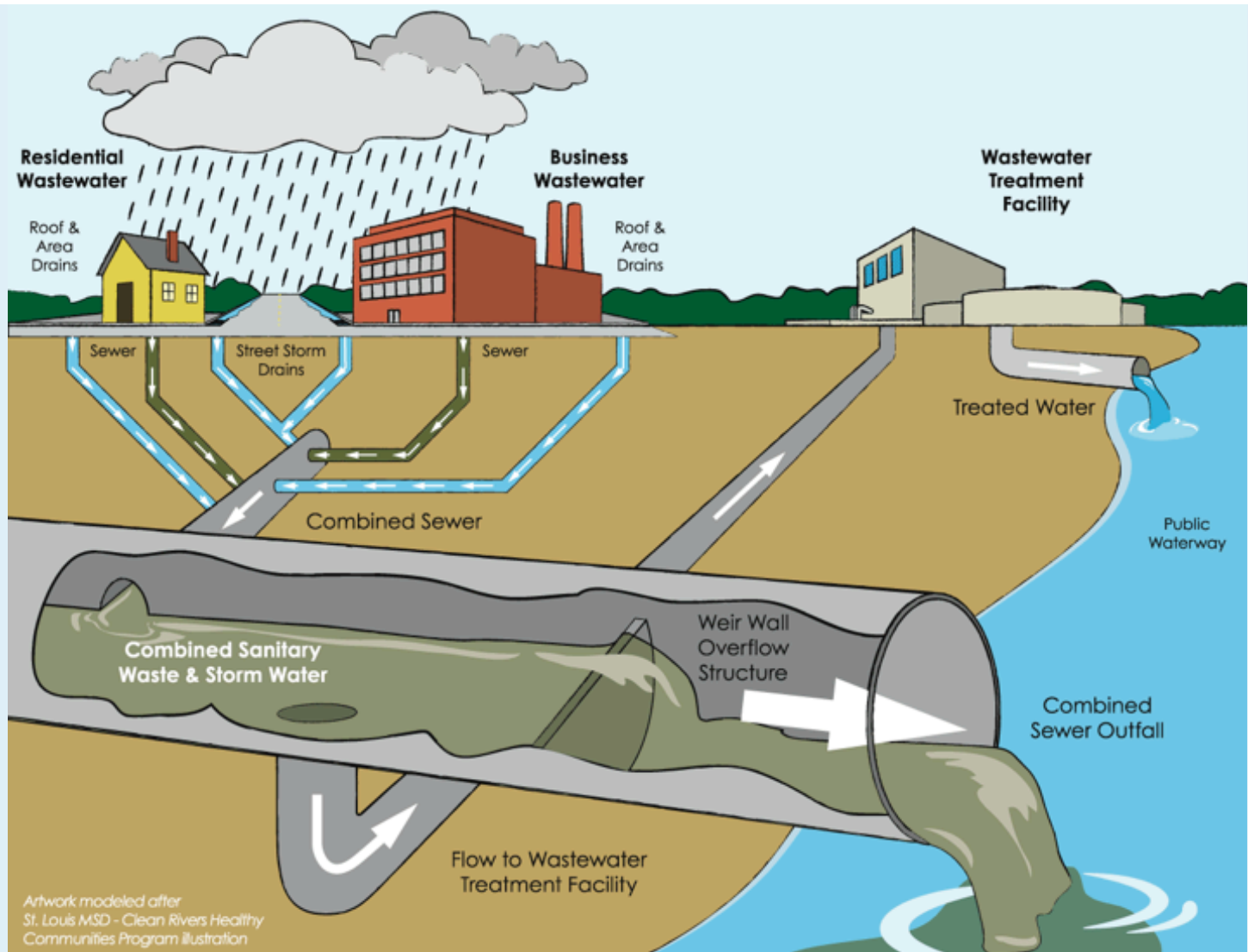
Sewage pollution in our waterbodies can lead to very serious health risks. Sewage pollutes our waters with pathogens, bacteria, heavy metals, excess nutrients, and other toxics. Excess nutrients, which can also be discharged into water bodies due to improper agricultural practices in addition to sewage overflows, can lead to toxic algal blooms, which have the potential to devastate aquatic life. Symptoms from exposure to a toxic algal bloom can include memory loss, vomiting, diarrhea, abdominal pain, liver failure, respiratory paralysis, and coma.<sup>28</sup> Exposure to pathogens found in sewage can cause diarrhea, vomiting, respiratory and other infections, hepatitis, dysentery, and various other diseases.<sup>29</sup>

As noted in the *Executive Summary*, a 2004 report issued by the EPA estimated that there are as many as 5,000 cases of illness attributable to recreational exposure to CSOs and SSOs at state-recognized beaches in the U.S annually.<sup>30</sup> The EPA acknowledges that these figures are potentially conservative and stated that there are likely a significant number of additional illnesses that occur as a result of exposure at inland and unrecognized beaches.<sup>31</sup>

# 5,000

*The EPA's Estimated Cases of Annual Illness Due to Recreational Exposure to Sewage at State-Recognized Beaches in the U.S.*

While the only way to eliminate the risk entirely is by investing in wastewater infrastructure repairs and upgrades which will stop sewage overflows from happening as frequently, until those investments are made the public has a right to know when and where sewage overflow events are taking place.



# Breaking Down Spill Data

DEC houses a database for Sewage Pollution Right to Know Act discharge reports on its website.<sup>32</sup> In accordance with the Act, this database has details of the discharges including the volume, treated state of the discharge, the duration and location of each discharge, and any remedial responses that were taken.<sup>33</sup>

The database currently includes information for sewage overflows from May 2013 through June 2015, totaling 2,696 reported sewage discharges.

Within that total figure – which is likely very conservative due to a lack of final regulations requiring reporting – the volume, or how much spilled, is missing from the vast majority of discharge reports. Only 15 percent (404 out of 2,696) of the reports include an estimate for the volume of the discharge. Even so, the total volume reported from 2013 to 2015 is 158,142,274 gallons, included both untreated and partially treated sewage discharges.

# 85%

*The Percentage of Reported Sewage Spills Which Fail to Include the Volume of Spill*

It is likely that if 100 percent of the 2,696 reports – knowing this does not reflect the total number of discharges that happened during this timeframe – included volume projections, the total would be well in excess of one billion gallons.

In addition to the numerous reports missing an estimate for the volume of sewage discharged, five counties have not reported a single overflow event: Chemung, Hamilton, Lewis, Schuyler, and Tioga.

The data reported by region does not accurately reveal the true number of sewage discharges, or accurately depict volume. Instead, data below more accurately reveals the degree of compliance with the Act by local officials.

Region	Overflow Events Reported	Total Volume Reported (Gal.)
Capital Region	181	1,246,575
Central	176	90,922,242
Hudson Valley	234	2,644,863
Long Island	19	254,135
North Country	51	1,191,810
NYC	120	563,910
Southern Tier	44	4,376,382
Western	1825	56,942,357

*The DEC Sewage Pollution Right to Know database includes reported events between May 2013 and June 2015. It does not provide a true overview of all spills, volumes, etc.*

Municipalities in Erie County alone account for approximately 58 percent of the total number of discharges reported statewide, and the entire Western New York region accounts for approximately 68 percent of the total number of discharges reported. While these municipalities are doing a better job complying with the law than other regions, the volume is still missing from many reports. In fact, just six percent of reports filed from Erie County include discharge volume, which may explain why City of Buffalo discharges are estimated to exceed 4 billion gallons annually, while only 57 million gallons has been reported for all of Western New York in the DEC database.<sup>34</sup>

Unfortunately, other parts of the state are failing to report events entirely, and also frequently fail to include volume on those that are reported.

### Capital Region

From 2013 to 2015, database figures state that the Capital Region discharged approximately 1.2 million gallons; however, other estimates indicate that the region actually discharges approximately 1.2 billion gallons of raw sewage into the Hudson River annually.<sup>35</sup>

Despite what is expected by the Sewage Pollution Right to Know Act, there is a continual breakdown of public notice as communities either do not provide timely and easily accessible reports to the public, or fail to submit information on when, where, and how much spillage occurred to the DEC. The Capital Region's own CSO Long Term Control Plan is based on a variety of models and amounts of rainfall, then publicly reported when expected discharges may occur at [albany.pool.org](http://albany.pool.org), a general website that users must know about and actively seek out (rather than the public receiving notice that a discharge has occurred).

### New York City

DEC's reported figure of 563,910 gallons discharged between 2013 and 2015 for New York City is a tiny fraction – just 0.002 percent – of the 28 billion gallons estimated for annual discharges into New York harbor.<sup>36</sup> Like the Capital Region, New York City operates a separate CSO discharge tracking operation, also based on modeling and rainfall.

0.002%

*The Amount of NYC Spill Volume Reported to DEC Out of the  
28 Billion Gallons Estimated to be Dumped into New York Harbor Annually*

DEC has stated that they are working to ensure communities with their own reporting systems also do so via the Sewage Pollution Right to Know NY-Alert system.

The lack of set standards, combined with inconsistent reports have resulted in incomplete, competing and confusing data.

While available data reflects just a fraction of the discharges taking place, the Sewage Pollution Right to Know database highlights the real world impacts of a problem that has until now been out of sight and out of mind for many New York residents and lawmakers. DEC's newly implemented NY-Alert system begins to offer the potential to collect and share even better data, and it is crucial that program cover all municipalities and there not be competing systems at work when public health is at risk.

The frequency and scope of discharges has garnered significant news coverage in many areas of the state. And the public is now slightly more aware that sewage discharges result in significant pollution to our waters throughout New York, and that infrastructure investments should be a higher priority.

# The Root Problem

## Wastewater Infrastructure Funding Needs

Whether reviewing the adequacy of the Sewage Pollution Right to Know Act, communities' ability to fully and correctly provide information in accordance with the Act, or the root problem of a failing wastewater infrastructure, the concerns rest with a lack of investment.

When it comes to infrastructure, the 2014 report from the Office of the Comptroller states that the need for maintenance of sewage infrastructure, not considering the wastewater infrastructure as a whole, was estimated at \$20 billion over the same period of time. With \$200 million being invested annually, an \$800 million funding gap remains just for sewer infrastructure.<sup>37</sup>

The lack of investment in the state's water infrastructure is a significant burden on local governments and a hindrance to economic development. The 2008 DEC report, *A Gathering Storm*, states:

“With limited federal and state assistance, the burden of maintaining wastewater infrastructure falls on local governments. Many local municipalities have trouble convincing their residents that infrastructure must be managed proactively, including planning for repairs and replacement and charging rates that cover those costs. Fewer than 40 percent of municipalities have a capital improvement plan for their wastewater collection systems. Except for transportation infrastructure, water and wastewater infrastructure are the largest municipal assets.”<sup>38</sup>

There has been a lack of support for wastewater system operators and many local governments, especially smaller communities that struggle to afford the costs of water infrastructure repairs because most of the money available for these projects is only available as cost-prohibitive loans. For example, the town of Henderson, NY, in Jefferson County, requested \$8.7 million in Environmental Facilities Corporation (EFC) financing for a new wastewater treatment facility. However, they have since decided to postpone plans stating that the project was “simply not economically feasible at this point in time.”<sup>39</sup>

The Development Authority of the North Country Chief Executive Officer James Wright, a former state Senator, has stated:



City of Ithaca Wastewater Treatment Facility  
Credit: City of Ithaca

“A wastewater or water treatment plant is probably the single largest expenditure they are going to encounter... A multi-million dollar project, every 20 years, is not the first thing on everybody's mind. Municipal officials, who have to deal with those problems, try to maintain as low a rate as possible. That's what you see occurring in many instances, and large capital expenses get deferred.”<sup>40</sup>



# Recommendations

The upgrading of infrastructure – and requisite state investment – will need to occur aggressively over many years, if not decades, which means the proper enactment and enforcement of the Sewage Pollution Right to Know Act cannot wait. As long as the Act is needed due to infrastructure failings, it must be practiced in accordance with the spirit intended by state legislators.

Implementation of this law must be immediately improved upon, regulations must be finalized, and there must be the full reporting of sewage overflows statewide.

1. Staff funding for DEC must be increased to ensure New York has enough cops on the beat to enforce laws and protect public health. The current shortcomings of the Sewage Pollution Right to Know Act are the result of inadequate funding that would ensure communities are following consistent standards and have the technology available to accurately track and report discharges. Additionally, too few resources are available to DEC experts to finalize and implement current draft regulations.
2. Missing from current draft rules are several provisions which Environmental Advocates believes are necessary to protect public health:
  - A. **No exemptions for reporting spills.** Many CSOs are exempt from reporting spills. CSOs are the systems found in most urban areas, and can overflow even in light rain as wastewater and sewage enter the same line. CSOs are the primary culprit of sewage pollution entering our waterways. For instance, it is estimated that in the Capital Region alone CSOs account for approximately 1.2 billion gallons of raw sewage discharged into the Hudson annually.
  - B. **Notify potentially impacted communities.** The law states that impacted communities should know when public health is at risk. However, in the draft rules only the communities in which the spill occurs and those directly adjacent are notified, ignoring that oftentimes these spills enter waters used by many communities downstream.
  - C. **Immediate reporting.** Proposed rules provide municipalities a 2 to 4 hour window for reporting a spill. However, when it is learned that a spill has occurred, reporting should happen immediately.
  - D. **Broader public notification.** The DEC makes public notifications through the NY-Alert system. Notifications are only known, however, to people who have the knowledge to find the sign-up form on the DEC website. Environmental Advocates believes the outreach should be more robust, with local media being alerted at the same time a report is filed with the DEC, and that an ongoing public awareness campaign be developed to educate New Yorkers about NY-Alert and how to sign up.
3. The Governor and Legislature should invest at least \$800 million annually in the New York State Water Infrastructure Investment Act of 2015 (NYSWIIA), a budget line created in the SFY2015-16 Budget. NYSWIIA must be permanently extended beyond its three-year life to create an ongoing commitment to clean water in New York State.

# Frequently Used Acronyms

**DEC:** New York State Department of Environmental Conservation, which is responsible for the Sewage Pollution Right to Know Act

**EFC:** New York State Environmental Facilities Corporation, which administers low-cost financing and technical assistance for water and sewer infrastructure projects.

**CSS:** Combined Sewer Systems collect both sewage and stormwater runoff in the same pipes.

**CSO:** Combined Sewer Overflows occur when capacity is exceeded in a CSS.

**POTW:** Publicly Owned Treatment Works are plants owned by a government agency.

**POSS:** Publicly Owned Sewer Systems are owned by a government agency.

**SSO:** Sanitary Sewer Overflows occur when untreated sewage is discharged from a sanitary sewer line before it reaches a sewage treatment facility.



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