

# Stormwater Infrastructure Matters (S.W.I.M) Coalition

## CSO FACTSHEET

[www.swimmablenyc.info](http://www.swimmablenyc.info)

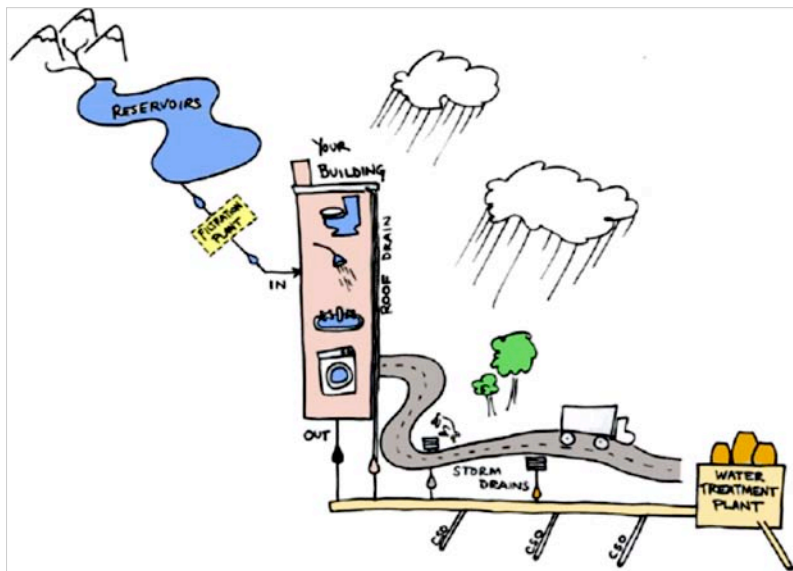


### What is it?

Combined sewer overflow (CSO) is water pollution that happens during and after wet weather like a rainstorm or snowmelt. Because the city is made of impervious surfaces such as asphalt and concrete, most stormwater can't be absorbed the way it is when it falls on soil in a park or garden. Stormwater runs off hard surfaces into storm drains that eventually join up with the sewer pipes leading to one of NYC's 14 sewage treatment plants. This system often exceeds capacity, and the combination of stormwater and sewage must be diverted – without treatment – to the nearest creek, river or bay.

CSO events happen over 70 times a year – and vary in location and severity from place to place. Each year, 27 billion gallons of wastewater is dumped into area creeks, rivers and bays during wet weather. This includes over 2 billion gallons of raw, untreated sewage.

When water runs off the City's rooftops, roadways and other surfaces and into storm drains, it picks up anything that happens to be on these surfaces, such as gasoline, rat poison and other pesticides, fertilizers, litter, animal waste, dust, grime and grit. Raw sewage contains disease-causing pathogens, excess nutrients such as nitrogen & phosphorus, solids organic matter (poop) as well as anything that gets flushed or washed down a toilet or drain. During a CSO event, polluted stormwater combines with the City's sewage and travels out to local waterways, bringing this toxic cocktail of pollutants with it. CSO discharges may



contain a wide variety of toxics – heavy metals such as mercury, cadmium, lead, chromium, copper, as well as over 200 toxic chemicals including PCBs, PAHs, dioxins, furans, phenols and chlorinated organics.

**At the water's edge, a CSO outfall will be marked with a green sign as a "New York State Wet Weather Discharge Point". Below or near the sign will be a pipe or chamber that releases CSO pollution.**



## How does this affect you?

The systems for wastewater collection and treatment have greatly improved in the 30+ years since the Clean Water Act, and these improvements can clearly be seen in the rebounding health of our local waterways. There are, however, more gains to be made and major changes that need to happen. CSOs continue to limit the way New Yorkers can use their local waterways. CSOs are a public health concern because they are the most significant source of disease-causing pathogens (fecal coliform bacteria) in the waters surrounding New York City. CSOs pollute beaches, water access points, and working waterfronts, making activities including swimming, fishing, kayaking, and boating dangerous.



Pathogens also restrict our access to historic local food sources, such as shellfish. CSO pollution – together with treated wastewater from our sewage treatment plants – causes excess loadings of nutrients that reduce dissolved oxygen levels in receiving waterbodies. Low oxygen makes for stinky conditions at the waterfront and endangers a wide variety of marine life.

New York City's Department of Environmental Protection has highlighted CSOs as a significant water pollution problem for the City, and specifically as the cause of outstanding water quality standard violations. The New York State Department of Environmental Conservation has listed eighteen of the City's 26 waterbody segments as impaired and requiring

special attention under section 303(d) of the Clean Water Act, specifically as a result of pollution from CSOs. NYSDEC modeling also shows that CSOs are significant sources of both organic pollutants and metals to New York City's waters.

## What can you do?

### 1. Get involved – Join S.W.I.M.

We are a coalition dedicated to ensuring swimmable waters around New York City through natural, sustainable stormwater management practices in our neighborhoods. We can connect you with greening, planning and educational opportunities in your area.

### 2. Learn more

It is important to understand how and when CSOs happen so that we can protect ourselves at the water's edge, and also so we can work together to find new ways to prevent or lessen CSO impacts. The links in the Resources section of the S.W.I.M. website will get you started.

### 3. Keep it on your lot, on your roof, or on your sidewalk

An important way to reduce CSO is decreasing the amount of stormwater that enters the combined sewer system. Common methods include use of rain barrels, green roofs, permeable pavement, vegetated swales and rain gardens. Different techniques can fit different locations, and all offer local environmental benefits as well.

### 4. Conserve water in your household

When you reduce the amount of water going down the drain in your house, you increase the available capacity at the sewage treatment plant. Conserve water in your household, fix leaky faucets and pipes, install low-flow showerheads and water-saving toilets.

**5. Don't use nitrogen-rich fertilizers on your lawn or garden** – Even in the city, nitrogen is harmful and may be contributing to marsh loss in Jamaica Bay. Nitrogen can also reduce oxygen levels in the water, harming many plant and animal species.

**6. Plant a tree or garden of any size** - Increasing plant cover and reducing impervious surfaces (e.g. blacktop) reduces the amount of water that reaches the sewer.

**7. Plant native species** - Native plant species trap rainfall and help sustain a healthy soil structure that allows stormwater to more easily be absorbed into the soil, preventing stormwater runoff. Non-native invasive plants can out-compete native species, as they do not have local natural predators, are pollution tolerant, and flourish on disturbed lots.

**8. Don't litter** - Anything that ends up in our storm drains or sewers has the potential to end up in our waterways. When it rains, litter in the street washes into these storm drains – so don't litter!

**9. Don't pour harmful chemicals or elements (e.g. mercury powder), strong detergents, or oils down your sink or storm drains**

Remember – it can all end up in CSO pollution!

