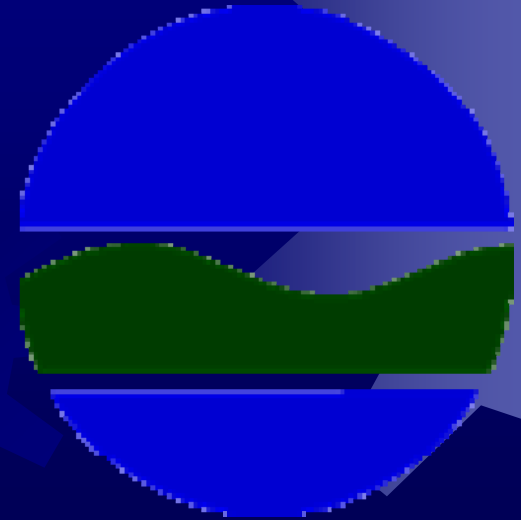


New York State DEC SPDES CSO Requirements

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www.dec.state.ny.us





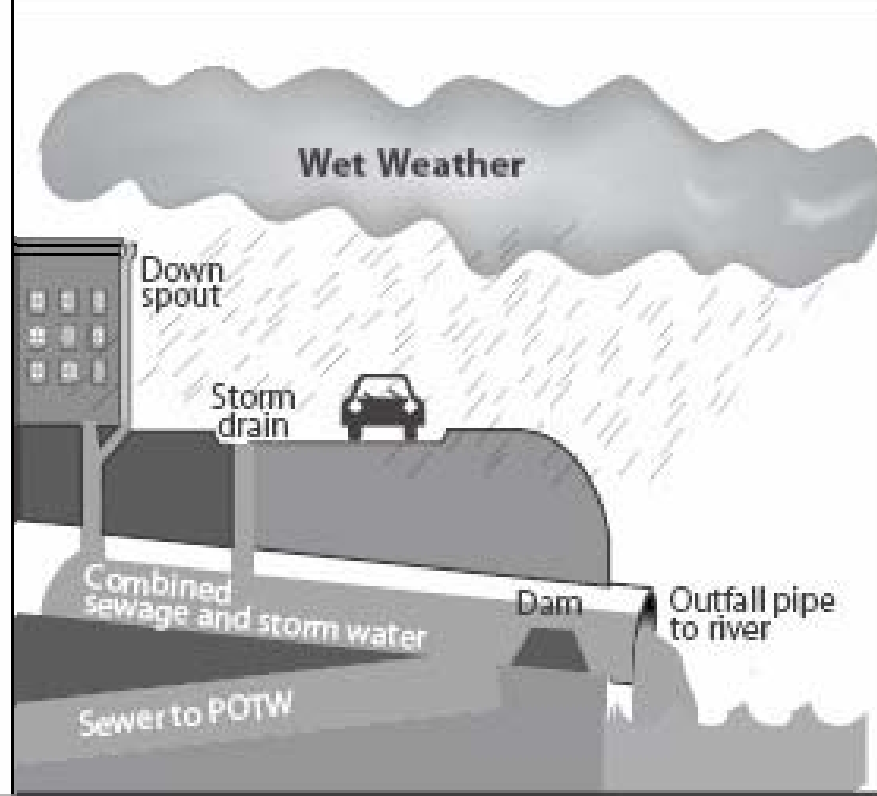
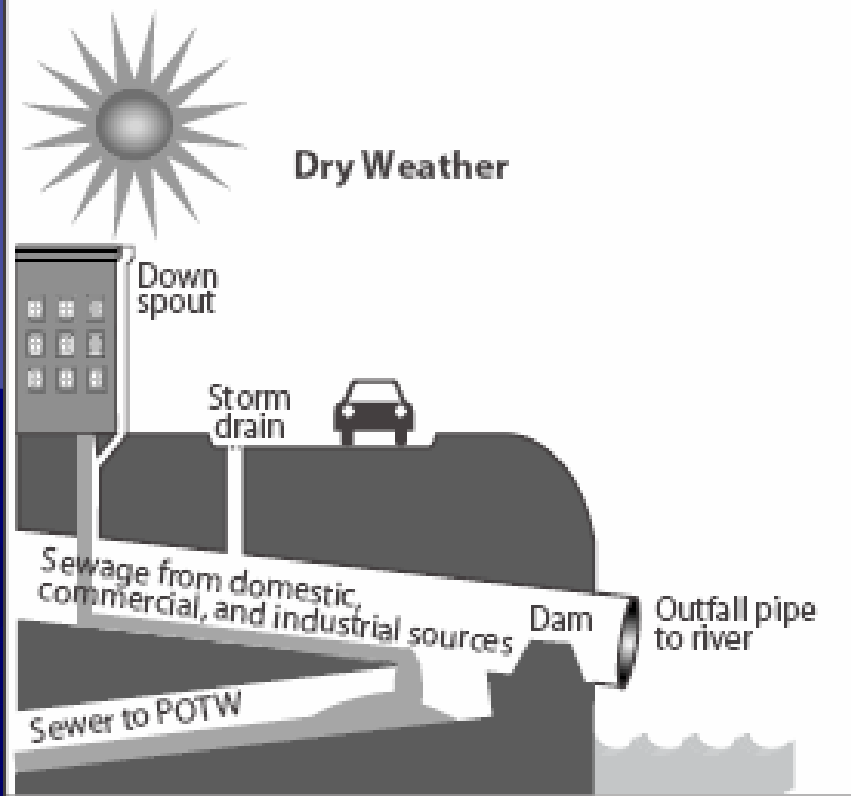
Definitions

- ✦ Combined sewer systems (CSS) are designed to collect rainwater runoff, domestic sewage, and industrial wastewater in the same pipe.
- ✦ Combined sewer overflows (CSO) are discharges of untreated wastewater from a CSS at a point prior to the headworks of the WWTP.

A Local Combined Sewer Outfall



Combined sewer systems are designed to discharge directly to surface waterbodies such as rivers, estuaries, and coastal waters during wet weather, when total flows exceed the capacity of the CSS or treatment plant.



Pollutants in CSO Discharges

Pollutants of Concern in CSOs and SSOs Likely to Cause or Contribute to Impairment	Aquatic life support	Drinking water supply	Fish consumption	Shellfish harvesting	Recreation
Oxygen-demanding substances	●				
Sediment (TSS)	●				
Pathogens		●	●	●	●
Toxics	●		●	●	
Nutrients	●	●			
Floatables					●

Typical Floatables





Impacts of CSO discharges

- ✱ Bathing Beach closures
- ✱ Post storm swimming advisories
- ✱ Floating debris and slicks
- ✱ Low dissolved oxygen
- ✱ Sedimentation
- ✱ Turbidity
- ✱ Fish kills

Fecal Coliform Concentrations in Municipal Discharges

The presence of fecal coliform bacteria in aquatic environments indicates that the water has been contaminated with fecal material of humans or other warm-blooded animals.

Fecal Coliform (colonies/100 ml)

Municipal Sources	Number of Samples	Range	Median
Untreated wastewater/dry weather SSOs	--	1,000,000 ^a - 1,000,000,000 ^d	--
Wet weather SSOs ^a	--	--	500,000
CSOs ^b	603	3 - 40,000,000	215,000
Urban storm water ^c	1,707	1 - 5,230,000	5,081
Treated wastewater	--	--	<200 ^e

^a WDNR 2001

^b Data collected as part of municipal interviews

^c Pitt et al. 2003

^d NRC 1996

^e Limit for disinfected wastewater

Estimated Annual Fecal Coliform Load from Municipal Point Sources

CSOs appear to be the most significant source of fecal coliform when compared to other municipal point sources on an annual basis.

Source	Annual Discharge Volume (billion gallons)	Median FC Concentration (#/100 ml)	Total FC Load (MPN x 10 ¹⁴)	% of Total Municipal FC Load
Treated wastewater	11,425	200 ^a	865	1%
CSO	850	215,000	69,172	76%
SSO	10	500,000	1,892	2%
Urban storm water runoff	10,068	5,081	19,362	21%

^a Assumes wastewater treatment includes disinfection



DEC's CSO Control Strategy:

- ★ **Best Management Practices (15 CSO BMPs)** are **Technology Based Requirements** to Minimize CSO Pollution from the Treatment Plant and Collection System and are equivalent to EPA "*Nine-Minimum Controls*"
- ★ **Additional Control Measures** identified in a Long-Term Control Plan are **Water Quality Based Requirements** to address water quality use and standard problems not addressed by BMPs



CSO BMPs in SPDES Permits:

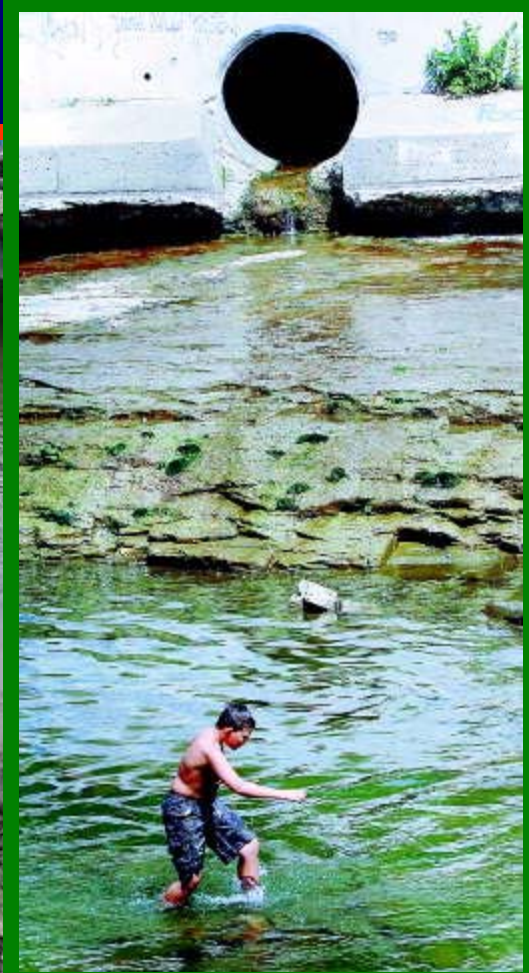
- ✦ CSO & CSS Maintenance/Inspection
- ✦ Maximum Use of Collection System for Storage
- ✦ Industrial Pretreatment
- ✦ Maximize Flow to POTW
- ✦ Wet Weather Operating Plan
- ✦ Prohibition of Dry Weather Overflow
- ✦ Control of Floatable and Settleable Solids



More SPDES CSO BMPs:

- ✦ Combined Sewer Replacement
- ✦ Combined Sewer Extension
- ✦ Connection Prohibitions
- ✦ Septage and Hauled Waste
- ✦ Control of Run-off
- ✦ Public Notification/Discharge Notification
- ✦ Characterization and Monitoring
- ✦ Annual Implementation Report

Public Notification BMP



Long Term CSO Control Plan:

★ Nine elements:

- ★ Characterization, monitoring, and modeling
- ★ Public participation
- ★ Consider sensitive areas
- ★ Evaluate control alternatives
- ★ Cost/performance considerations
- ★ Operational plan
- ★ Maximize treatment at POTW
- ★ Implementation schedule
- ★ Post-construction monitoring

Some Facts on CSOs in Albany Pool:

- ✱ 8 Individual SPDES permits
 - ✱ 2 Sewer Districts with 3 POTWs that treat combined sewage &
 - ✱ 6 communities with CSS
- ✱ 92 CSOs in the 6 communities:
Albany 11, Troy 48, Rensselaer 8,
Cohoes 17, Watervliet 5, Green Island 3



Albany Pool Phase 1 LTCP

- ✦ Characterization, Monitoring and Modeling
- ✦ Public Participation
- ✦ Evaluate Alternatives and Costs
- ✦ Submit Report and Schedule to DEC by September 2009
- ✦ DEC will include implementation of alternatives in modified permits in accordance with the approved schedule.

Questions?

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