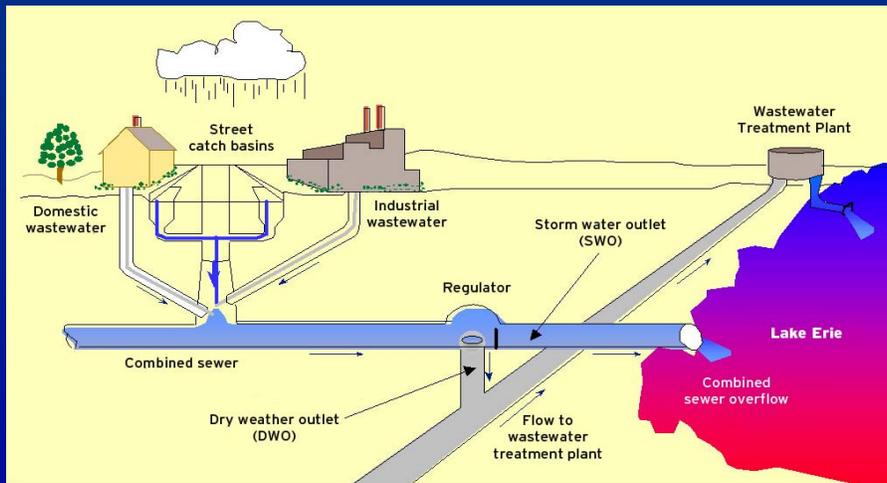


Phosphorus Loading from NEORSD Combined Sewer Overflows

Ohio Lake Erie Phosphorus Task Force
January 28, 2008

What is a CSO?



Assuring clean water for a Greater Cleveland.

www.NEORSD.org

Ohio Lake Erie Watershed CSOs

- 598 CSOs in 52 communities*
- 38 communities released 10.9 billion gallons in 2005*
- TP load to Lake Erie: 90.4 metric tons/yr
- % of TP load to Lake Erie: 1%
- DRP load to Lake Erie: 17.8 metric tons/yr
- % of DRP load to Lake Erie: 0.7%

*Data from Sewage Overflow: Billions of Gallons of Sewage Contaminate Lake Erie released by Environment Ohio and Environment Ohio Research and Policy Center, May 2007 3

NEORSD CSOs

	2000	2007	After LTCP
Number of Overflows/Yr	3854	2957	194
Volume (million gallons/yr)	5482.6	4949.1	775.1
Total P Load (metric tons/yr)	45.4	41.0	6.4
% of external TP load to Lake Erie	0.5	0.5	0.1
Ortho-P Load (metric tons/yr)	8.9	8.0	1.3
% of total DRP load to Lake Erie	0.4	0.3	0.1

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NEORS's Long-Term Control Plan

- 31 miles of tunnels ranging in diameter from 18 to 24 feet
- another 72 miles of connector sewers
- estimated cost over \$2 billion
- first tunnel (Mill Creek, 8 miles long) is nearly complete
- 97% capture of wet weather flows, currently at about 80% capture
- overflows will occur 4 times or less per year

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Estimated Dissolved Reactive Phosphorus Loading to Southerly WWTC from Drinking Water

Average DRP concentration in tap water	0.34 mg/L
Total influent DRP load	128.5 metric tons/yr
Influent DRP load from tap water	37.4 metric tons/yr
% influent DRP load from tap water	29.3%

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Estimated Phosphorus Loading to Southerly WWTC from Dishwasher Detergent

Estimated % households w/dishwashers	50%
Estimated P load from dishwashers	60.5 metric tons/yr
% influent TP load from dishwashers	13%

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Senate Bill 214

- Limit phosphorus in residential dishwashing products to 0.5% by July 1, 2010
- Passed Senate by a 32-0 vote on October 30, 2007
- To be supported by NEORSD
- Association of Ohio Metropolitan Wastewater Agencies (AOMWA) is considering support

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