



Enforcement Alert

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EPA Strategically Addressing Raw Sewage Discharges Across Nation to Protect Public, Environment

EPA Reaches Settlements with Baltimore, Other Municipalities to Stop Sewage Overflows, Overhaul Sewer Systems

Sanitary sewer systems that are properly designed, operated, and maintained, collect and transport all of

the sewage and industrial wastewater that flow into them to a publicly owned treatment works (POTW) for appropriate treatment before being discharged into our nation's rivers, streams, and other water bodies. However, when sanitary sewer systems are not maintained, or lack adequate capacity, discharges of raw sewage and industrial wastewater can occur without receiving appropriate treatment. In some systems, these sanitary sewer discharges occur on a regular basis.

These discharges, called **sanitary sewer overflows (SSOs)**, occur when there is an overflow, spill, or release of raw or partially-treated sewage from a sanitary sewer collection system before it reaches a sewage treatment plant. Such releases regularly contaminate our nation's waters, degrade water quality, and expose humans to pathogens and viruses that can cause serious illness. In addition, these discharges can occur as basement backups, causing property damage and further threatening public



Some sanitary sewer overflows can occur at deteriorated manholes. (Photo courtesy of the Orange County Sanitation District.)

health. EPA estimates that there are 20,000 separate sanitary sewer systems, and thousands of overflows occur each year.

Section 301 of the Clean Water Act prohibits the discharge of any pollutant to waters of the United States from a point source, unless the discharge is authorized by a permit. Some discharges

from municipal treatment plants are permitted, but they must meet technology-based effluent limitations based upon secondary treatment and/or appropriate water quality-based effluent limitations. In addition, permits require adequate operation

and maintenance programs for sewage

About Enforcement Alert

Enforcement Alert is published periodically by the EPA's Office of Regulatory Enforcement, Office of Enforcement and Compliance Assurance to inform and educate the public and regulated community of important environmental enforcement issues, recent trends and significant enforcement actions.

This information should help the regulated community anticipate and prevent violations of federal environmental law that could otherwise lead to enforcement action. Reproduction and wide dissemination of this publication are encouraged. *For information on how you can receive this newsletter electronically, send an email to the editor.*

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One of EPA's ongoing enforcement priorities is to identify and correct these raw sewage discharges to protect public health and the environment.





collection and treatment to ensure continued system integrity and prevention of unauthorized overflows of untreated wastewater.

SSOs are illegal because they are unpermitted discharges, or they occur in violation of existing permits. Given the seriousness of the problem in many major municipalities, one of EPA's ongoing enforcement priorities is to identify and correct these raw sewage discharges to protect public health and the environment.

SSOs Endanger Public Health and the Environment

People are exposed to raw sewage through recreational contact such as swimming and fishing, in their homes and neighborhoods because of basement or street flooding, and through drinking contaminated water. Contact with raw sewage exposes people to a variety of pathogenic microorganisms, viruses, and intestinal worms that can

cause serious illnesses such as cholera, dysentery, infectious hepatitis, and gastroenteritis. Sensitive populations—children, the elderly, and those with weakened immune systems—are at a higher risk of illness.

Beach closures and recreational water warnings are designed to limit the human health impacts of bacteria and pathogens present in water, whether from SSOs, stormwater, or urban runoff.

Sanitary sewer overflows degrade the environment by polluting our waterways, adversely affecting fish and other wildlife species. For example, sewage can cause the explosion of algal growth, depleting oxygen in the water and killing fish. Raw sewage discharges cause property damage and public health problems when overflows flood homes and businesses that subsequently require cleanup, large scale disinfection, and the replacement of rugs, furniture, wallboard panels, and flooring. Raw sewage discharges also can lead to a drop in tourism and eco-

nomie loss from beach closures and shellfish and fishing restrictions.

Why SSOs Occur

Separate sanitary collection systems are intended to collect and transport all of the sewage that flows into them. Municipalities must evaluate their collection systems to identify the causes of SSOs so that they can be anticipated and stopped before they harm public health and the environment.

Chronic SSOs can be the result of excessive amounts of rainfall or snowmelt seeping through the ground and overwhelming leaky sewers, which are not intended to drain storm runoff, and excess rainwater feeding into sewers through illegally-connected roof drains. In addition, municipalities with poor operation and maintenance programs will experience SSOs as a result of system deterioration. Pipes can, and often do, settle and crack, and need repair and replacement on a regular schedule. Sediment, grease, and other debris can build up and cause pipes to plug, break, and collapse. SSOs are also often caused by a lack of system capacity.

To Eliminate SSOs, EPA Uses Mix of Compliance, Enforcement Tools

EPA's compliance goal is to eliminate SSOs from municipal collection



When sanitary sewer systems are not maintained, or lack adequate capacity, discharges of raw sewage and industrial wastewater can occur and potentially endanger the public and environment. (U.S. EPA photographs.)





systems and to ensure that sanitary wastewater is being conveyed to treatment plants for treatment in accordance with the requirements of the Clean Water Act. EPA uses a variety of compliance and enforcement tools to achieve environmental and human health improvements, including enforcement actions, compliance assistance, and compliance incentives.

Enforcement

To date, EPA's enforcement actions have resulted in the elimination of billions of gallons of raw sewage discharges and the assessment of significant penalties. States also have joined EPA as co-plaintiffs in many lawsuits.

In these enforcement actions, EPA typically places municipalities under a compliance schedule that is as expeditious as practical (up to 15 years) to address deficiencies in their systems. Municipalities must assess their systems to understand the scope of the problem, then create a plan to improve, update, and repair their wastewater collection system. These municipalities also are required to develop and implement effective operation and maintenance programs.

Baltimore Settlement

On Sept. 30, 2002, a consent decree implementing a significant settlement with Baltimore to eliminate unpermitted discharges of raw sewage from the city's sanitary waste collection system was entered in federal court. All of the waterbodies affected by these discharges fail to meet Maryland's water quality standards for total coliform, one measure of disease-carrying pathogens.

Baltimore owns and operates two sewage treatment plants and 1,312 miles of collection system that transport wastewater to the plants. The plants serve a population of approximately 1.8

SSOs Major Cause of Beach Closings

Agencies participating in EPA's annual beach survey reported that of the 2,445 beaches reported in 2001, 672 were affected by advisories or closings, most often due to elevated bacteria levels. Sanitary sewer overflows were identified as one of the sources of pollution that resulted in these advisories or closings. The number of such beach advisories and closures reported every year is on the rise.

Municipalities must strive to eliminate the discharges, which often can lead to serious illness and disease. People who swim near storm drains or off beaches polluted by sewage can become ill with fever, nausea, gastroenteritis, and flu-like symptoms, or more serious diseases.

million people. The anticipated reduction in raw sewage discharges attributable to this settlement is more than 30 million gallons a year.

The settlement requires Baltimore to implement injunctive relief valued at approximately \$940 million over the next 14 years. The city will spend more than \$260 million to eliminate 54 sanitary sewer structures, increase the capacity of the collection system associated with these structures, and completely separate the combined portion of the system. The city also will undertake a comprehensive, systematic investigation of its entire collection system, and implement and complete action plans to remedy problems identified during the investigation. The city plans to install and maintain a computerized collection and transmission system model to evaluate the impact of various remedial action projects on the transmission capac-

ity and performance of the collection system. The city also will undertake a significant construction program to repair and rehabilitate pumping stations.

Baltimore also agreed to spend significant additional funds to identify and enforce against illegal sewer connections, implement an information management system program, develop and implement an emergency response plan for unpermitted discharges, improve the operation and maintenance program for the collection system, and report all unpermitted discharge events.

Finally, Baltimore agreed to pay a civil penalty of \$600,000, and implement a supplemental environmental project estimated at \$2.72 million designed to remove nitrogen from wastewater and improve water quality in the Chesapeake Bay.

Other Recent Settlements

An agreement reached with Baton Rouge and East Baton Rouge, La., will reduce discharges of untreated sewage to public areas and U.S. waters by more than 1.2 billion gallons annually. Baton Rouge and East Baton Rouge paid a \$729,500 penalty and are spending up to \$461 million on selecting and implementing a comprehensive collection system improvement plan.

Also, a recent agreement with Toledo, Ohio, which has both a combined and a separate sanitary sewer system, will eliminate roughly 800 million gallons of untreated sewage annually.

As part of case settlements such as these, EPA also encourages municipalities to perform supplemental environmental projects to help lessen the environmental impacts of their violations and secure additional environmental benefits. For example, Baltimore will design a \$2.7 million biological nutrient reduction facility at its treatment plant to remove nitrogen from wastewater.





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Under a settlement with the Water and Sewer Board of the City of Mobile, Ala., the Board agreed to spend \$2.5 million to purchase and preserve valuable habitat in Mobile County and the Dog River watershed, repair private residential service laterals in low-income areas, and partially fund a database of water quality monitoring data that is available to the public.

Compliance Assistance

EPA provides guidance, training, compliance assistance, and other technical and financial assistance tools to state and local agency personnel. EPA's regional offices lead these efforts, conducting training and workshops, participating in workshops, and conducting site visits to assess municipalities' progress in improving the capacity, management, operation, and maintenance (CMOM) of their sewage collection systems to eliminate and prevent SSOs.

Municipal officials looking for SSO-related information will find a wealth of regulatory, technical, and financial assistance on a number of EPA websites. For example, on the Office

of Water's website at www.epa.gov/npdes/ssso, EPA offers fact sheets on financing capital improvements for SSO abatement and implementing an asset management approach. Links to guides for operating and managing sewage collection systems and developing sanitary sewer overflow response plans are also included. Users also will soon have online access to the Office of Water's CMOM self-assessment checklist.

For more information about sanitary sewer overflows, see websites in "Useful Compliance Resources" column at right.

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Useful Compliance Assistance Resources

Office of Enforcement and Compliance Assurance:
<http://www.epa.gov/compliance>

Office of Water:
<http://www.epa.gov/npdes/ssso>

Sanitary Sewer Overflows:
http://cfpub.epa.gov/npdes/home.cfm?program_id=4

Local Government Environmental Assistance Network:
<http://www.lgean.org>

National Small Flows Clearinghouse (Aids small communities with wastewater problems):
<http://www.nesc.wvu.edu/nsfc>

Region 4 POTW Management, Operation and Maintenance Program (MOM):
<http://www.epa.gov/region04/water/wpeb/momproject/index.html>

National Compliance Assistance Clearinghouse:
<http://www.epa.gov/clearinghouse>

Compliance Assistance Centers:
<http://www.assistancecenters.net>

Small Business Gateway:
<http://www.epa.gov/smallbusiness>

