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## Section 3: Contributors

Investing in Clean Water: A Report by the Southwestern Pennsylvania  
Water and Sewer Infrastructure Project Steering Committee

## Executive Summary

Abundant water is one of southwestern Pennsylvania's greatest assets. The quality of that asset has improved steadily in recent decades, as the region has worked hard to reduce industrial water pollution. Unfortunately, the discharge of sewage into the region's waterways and groundwater, and the lack of water and sewer infrastructure in many communities, mean that the region can't fully enjoy the benefits of this important natural asset.

- Every year, billions of gallons of sewage escape from overflowing sewers and malfunctioning on-lot septic systems and enter the region's streams, rivers, lakes, and groundwater, threatening human health and tarnishing the region's environment.
- Some residents, particularly in rural areas, lack clean and reliable water supplies, adequate wastewater systems, or both.
- Many otherwise desirable development sites, including former mill sites and major highway interchanges, lack water and wastewater infrastructure, forcing companies that wish to locate or expand in the region to go elsewhere.
- Many communities face growth restrictions, because their existing water or sewer systems cannot handle the additional burden of new homes or businesses.

**Just as the region addressed the air pollution problems that threatened to choke off growth and endanger public health 50 years ago, the problem of wastewater pollution can be solved. The Southwestern Pennsylvania Water and Sewer Infrastructure Project Steering Committee concludes that the key is adopting a regional approach to protecting, treating, and delivering the region's water.**

## Water: Treasured Resource, Shared Problems

Though different parts of southwestern Pennsylvania have different water and wastewater issues, the problems facing urban and rural areas, and individuals and businesses, are fundamentally similar, and inextricably linked. The region's watershed and its networks of water and wastewater infrastructure transcend political and economic boundaries; water problems are everyone's problems.

- More than half of the homes in the 11 counties of southwestern Pennsylvania are connected to sewer systems or treatment plants that are designed to overflow into rivers, streams, or lakes. In the area served by the Allegheny County Sanitary Authority (ALCOSAN) alone, an estimated 16 billion gallons of mixed rainwater and sewage overflow into waterways annually. Billions of gallons more overflow from sewer systems in other parts of the region. These sewage overflows can carry parasites and bacteria dangerous to the young, elderly, and those with weakened immune systems. The federal Environmental Protection Agency has demanded action to substantially lessen the overflows.

- From the region's major rivers – the Allegheny, Monongahela, and Ohio – to the streams and creeks of Kooser and Laurel Hill State Parks, to Lake Arthur in Butler County, waterways of every type have been contaminated by sewage.
- About 500,000 southwestern Pennsylvanians, particularly in rural areas, are at risk from unreliable or polluted water supplies, inadequate wastewater systems, or both.
- As many as 27,000 southwestern Pennsylvania households have “wildcat sewers” which dump sewage into ditches or streams with no treatment at all, and some households lack reliable access to clean drinking water.
- Economic development in many parts of the region is hampered by inadequate or non-existent water and sewer systems. Limits on the addition of new users – called tap-in restrictions – have been imposed in dozens of older communities, and key locations for business development, such as former mill sites and major highway interchanges, lack necessary water and sewer infrastructure, potentially forcing businesses to locate elsewhere.
- The taint of wastewater pollution reduces the region's attractiveness for residents, potential newcomers, and tourists who enjoy outdoor recreation or simply want to live in a healthy environment.

Southwestern Pennsylvania is not alone in facing these problems. Almost every other metropolitan region in the country has them. The EPA estimates that needed water and sewage system improvements across the country could cost \$480 billion to \$1 trillion. But by some measures, southwestern Pennsylvania's problems are worse than those in most other places. Further, southwestern Pennsylvania's water resources are especially vital to its economic vitality and quality of life. This situation presents an opportunity for our region to demonstrate leadership for the rest of the nation.

## A Shared Burden: Authorities, Municipalities, Homeowners

Everyone – from service providers to homeowners to elected officials – has a role in fixing the water and wastewater problem.

- More than 1000 different entities – counties, municipalities, authorities, public works departments, and private companies – in southwestern Pennsylvania are responsible for ensuring that southwestern Pennsylvanians receive quality water and wastewater service. However, their ability to ensure that needed infrastructure investments are made is dependent largely on their customers' ability and willingness to pay for those investments.
- 896,000 southwestern Pennsylvania homes are connected to public sewer systems; the owners of each of these homes are responsible for the pipe that carries sewage to the municipal sewers. Defects, breaks, and improper connections of these pipes contribute as much as 50 to 60 percent of the stormwater that does not belong in a sewer system. In communities with overflowing sewers, this can be a major contributor to the problem.

- 264,000 southwestern Pennsylvania homes rely on individual on-lot septic systems to treat their household sewage. Studies indicate that 10 to 37 percent of on-lot septic systems in the region are most likely not providing enough treatment of sewage; some evidence suggests that the on-lot septic system problem may be considerably more widespread. These malfunctioning on-lot septic systems leak inadequately treated sewage into aquifers that supply many households with well water, and into backyards and creeks where children play.
- 11,000 to 27,000 southwestern Pennsylvania homes are not connected to either sewer systems or on-lot septic systems; their sewage is dumped directly into ditches, creeks, cesspools, and mines across the region.

## Keeping the Cost Down

Repairing southwestern Pennsylvania's existing sewer systems to reduce overflows and back-ups, bringing clean water and effective wastewater treatment to areas that lack them, and installing water and sewer infrastructure at targeted development sites could cost southwestern Pennsylvanians as much as \$10 billion over the next ten years. Savings can be achieved, and the investments that are made will be more effective, if the region works together to:

- Plan regionally, so investments go where they will do the most good; for instance, the EPA estimates that a single sewage treatment plant can cost 25 percent less to build than three smaller plants with the same combined capacity
- Share technical innovations and educational materials, so communities can take advantage of the latest technology
- Advocate for federal and state funding, and for legislative and regulatory changes to support community investments
- Help communities and individuals that lack the means to pay for needed improvements on their own
- Provide adequate water and wastewater infrastructure at targeted development sites to capitalize on job-creation opportunities.

Even if communities in southwestern Pennsylvania cooperate regionally, individual residents must recognize their own role in solving the problem. Some will need to repair or replace aging or malfunctioning sewer pipes and septic systems on their own property that are contributing to the contamination problem. Many likely will be asked to pay higher sewer rates to finance the necessary infrastructure investments.

Water and wastewater systems already represent a multi-billion dollar regional investment. Southwestern Pennsylvania spent about \$3.5 billion on sewer system improvements between 1988 and 1998, for example. To address the sewer problems identified in this report, that level of capital investment may need to more than double in the next decade. Even if sewer rates had to double to finance that new level of investment, for many households the increase would be less than the cost of buying a bottle of water or soda from a vending machine each afternoon.

Refusing to act is no longer an option. State and federal regulators are moving aggressively to require southwestern Pennsylvania communities to solve their sewage contamination problems. The longer the region waits, the more it will cost to solve the problem, and the greater the risk of large fines for pollution violations.

## Lessening the Burden

The public is more likely to play a positive role in solving southwestern Pennsylvania's water and wastewater problems if it has knowledge and understanding of the issue. But that won't help communities and individuals who are asked to shoulder burdens they cannot afford to bear. Southwestern Pennsylvania has 490,000 low- and fixed-income households. Nearly every community in the region contains some such households, and in some communities a majority of residents are seniors and low-income individuals. Solutions, such as grant programs, rate restructuring, and/or deferred financing, must be identified and pursued to help those individuals and communities pay for the cost of improvements so the entire region can benefit.

## Regional Problem, Regional Solution

From the sewer overflows that pollute the Ohio River in urban Allegheny County to the septic tank wastewater that contaminates Ten Mile Run in rural Greene County, every part of southwestern Pennsylvania is troubled by problems with water and wastewater infrastructure.

- Every county in the region has public sewer systems that overflow into rivers, streams, or lakes.
- Every county has groundwater and/or surface water contamination due to failing septic systems or wildcat sewers.
- Every county has communities that are missing opportunities for development because of tap-in restrictions to sewer systems, or because water and wastewater infrastructure is lacking in strategic development areas.

Although southwestern Pennsylvania contains more than 500 municipalities, it is all part of one watershed – the Ohio River Basin. Wastewater pollution that occurs in one municipality or county crosses freely into another without regard for political boundaries. The end result is that nearly every community is affected by some other community's wastewater problems, and by what those communities do to address them.

The Southwestern Pennsylvania Water and Sewer Infrastructure Project has, since 1999, pooled the invaluable expertise of more than 60 public and private sector leaders from Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Somerset, Washington, and Westmoreland counties to study water and wastewater infrastructure conditions in the region.

The Steering Committee recommends that southwestern Pennsylvania use three broad regional strategies to repair and improve its water and wastewater systems effectively and efficiently. The strategies are:

- **Plan and prioritize water and wastewater investments.** A *Regional Goal and Priority-Setting Organization* is needed so cooperative planning, prioritization, and resource allocation can ensure that resources go to projects with the most “bang for the buck.” The **Southwestern Pennsylvania Commission** is well suited to fill this role.
- **Help communities find the most cost-effective solutions and educate the public.** A *Regional Education and Technical Assistance Organization* is needed to assemble a “toolbox” of technical know-how and make it available to all involved entities, to create and implement public education programs, and to forge multi-municipal coalitions. **3 Rivers Wet Weather, Inc.** already provides such services within the Allegheny County Sanitary Authority service area, and its mandate could be expanded to include the entire region.
- **Advocate for legislative and regulatory action, and for state and federal funding.** A *Regional Advocacy Organization* is needed to speak with one voice for the region to push for regulatory changes that would allow for innovative solutions, to obtain more state and federal funding for improvements and new infrastructure, and to advance legislation to ease the cost burden for low-income homeowners and communities. The **Greater Pittsburgh Chamber of Commerce**, with guidance from the **Southwestern Pennsylvania Growth Alliance**, is well suited to organize such an effort.

A regional approach will not work without public understanding, participation, and support. It will also fail if it is perceived to unduly benefit one set of interests, or unduly encumber those least able to shoulder the burden. A successful effort will ensure that assistance, investment, and ultimately the benefits of investing in clean water will help residents and businesses in communities rural and urban, rich and poor.

## Controlling Sprawl While Encouraging Growth

A lack of adequate water and sewer infrastructure at important development locations throughout the region is costing southwestern Pennsylvania critical job-creation opportunities. But without proper planning, water and sewer infrastructure can also result in undesired growth, sometimes known as sprawl. In order to enable southwestern Pennsylvania to accelerate economic growth while preserving the quality of life critical to attracting and retaining residents, communities should incorporate mechanisms for limiting sprawl when adding substantial new water and sewer infrastructure. Pennsylvania should consider adopting an approach to state infrastructure funding that would encourage the financing of projects in areas where development is planned and where the infrastructure improvement would support smart growth goals.

## Careful study, bold action

Many communities are working hard to solve their water and wastewater problems; those efforts deserve the highest commendation. **But only a concerted, region-wide effort can adequately and effectively solve the problems facing southwestern Pennsylvania's sewer systems and on-lot septic systems, expand water and wastewater infrastructure to underserved populations and targeted development sites, and bequeath healthy waterways and vigorous economic growth to future generations.**

## Preface

In recent years, there has been growing recognition that there are problems with southwestern Pennsylvania's water and wastewater infrastructure. In 1998, at the request of the Southwestern Pennsylvania Commission (SPC), the Western Division of the Pennsylvania Economy League (PEL) undertook a preliminary examination of the extent of the region's problems. This review indicated that the potential impact of water and wastewater problems on the region's future economic growth and quality of life warranted a full-scale examination. In 1999, the Economy League initiated the Southwestern Pennsylvania Water and Sewer Infrastructure Project.

Nearly 60 private and public sector leaders and experts from across the region agreed to serve as the Steering Committee for the project. The members of the Committee (see *Section 3: Contributors*) represented a wide range of interests, and included elected officials, regulators, developers, environmentalists, municipal authority managers, planners, business executives, utility experts, academics, engineers, and others. Dr. Jared L. Cohon, President of Carnegie Mellon University and a national expert on water and wastewater, at the request of the Allegheny Conference on Community Development, agreed to be Chairman of the Steering Committee.

Financial support was provided by the Claude Worthington Benedum Foundation, the Howard Heinz Endowment, the McCune Foundation, and the Richard King Mellon Foundation. In-kind support was provided by numerous individuals and organizations.

During 2000 and 2001, the Steering Committee examined current and anticipated weaknesses in the region's public sewer systems, on-lot septic systems, and drinking water systems; the extent of non-point-source pollution; and the need for additional water and wastewater infrastructure to support new development. The Steering Committee focused its efforts on wastewater infrastructure, including sewers and septic systems, because it saw the most pressing regional needs in this area, both in terms of environmental impact and the need for action. Although the recommended approach was developed primarily to address wastewater infrastructure needs, the Steering Committee agrees it would be equally applicable to drinking water systems.

The report that follows describes the Committee's findings and recommendations.