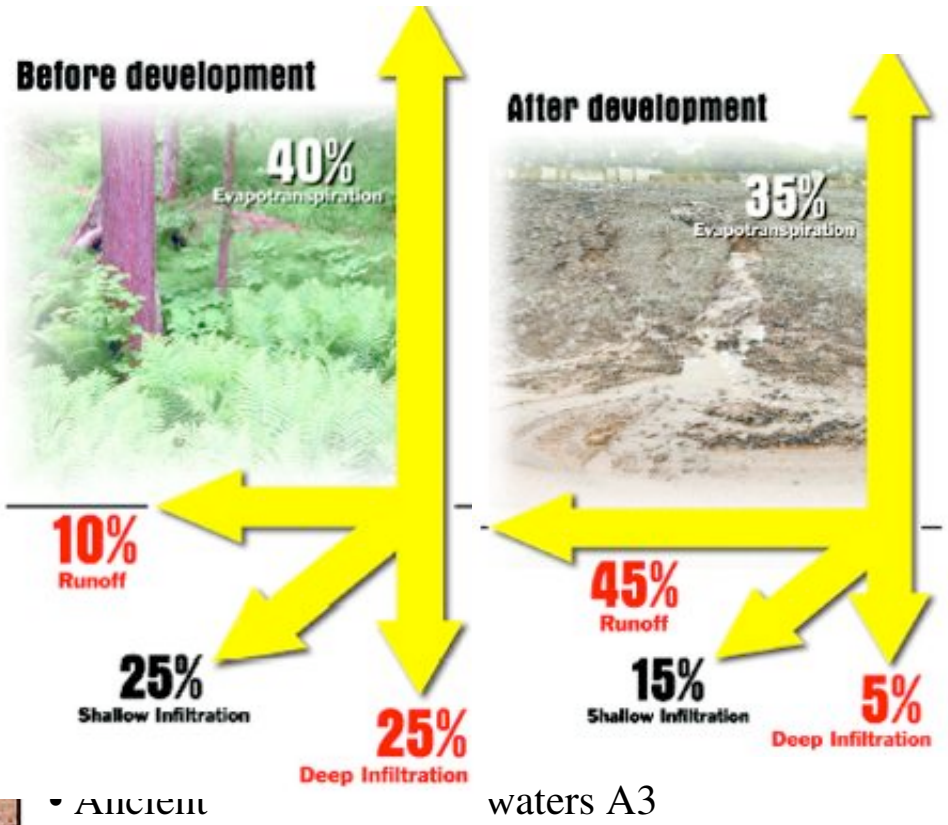


RICH IN WATER, POOR IN PLANNING

A resource we take for granted

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Inside today



- No well-drilling standards.. A6

Workers for C.S. Garber & Sons drill a new well in Lower Pottsgrove. New wells must now be dug deeper to reach underground supplies.

Once land is developed, covered by pavement and buildings, less rain penetrates the ground to re-charge groundwater reserves.

Graphics by William H. Coldren/The Mercury

We think about water a lot less than we used to. Before Christopher Columbus’s arrival, native Lenape tribes based their entire existence around the availability of water, primarily the Schuylkill and the Delaware, the name which Europeans adapted to refer to the region’s original residents.

And the Europeans who followed valued water as well — so much so that they enshrined its protection into the Commonwealth’s founding document.

“We’re water rich, but the question is how we’re using that water and how we’re planning for the future.”

— John Hines, executive director of DEP’s Water Planning Office

Article 1, Section 27 of the State Constitution states:

“The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and aesthetic values of the environment. Pennsylvania’s public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.”

As much for commerce as for drinking, William Penn recognized the confluence of the Delaware and the Schuylkill as a natural choice for the location of a city he called Philadelphia.

But as that city grew, so did its problems.

As early as 1769, a visiting Englishman was publishing comments about the “mess” in the Delaware River.

As time wore on, the Schuylkill didn’t fare much better, frequently described as an open sewer in which not even fish could live.

However, if Philadelphia was on the vanguard of water pollution problems, it was also ahead of the curve when it came to solutions, particularly in terms of providing its residents with drinking water.

Fairmount Park was the city’s first attempt to protect the watershed around a reservoir located where the art museum now sits, as well as Wissahickon Creek, the source of the reservoir.

Both were integral parts of Philadelphia’s landmark Fairmount Water works, which went online in 1815 with 63 customers connected through hollow wooden mains.

Philadelphians knew what many of us are relearning today, that your water is only as clean as what’s dumped into it upstream.

Although the Wissahickon is now one of the most impaired streams in Pennsylvania, the city fathers of the 19th century had the right idea, they just didn’t think big enough.

Science now confirms what their instincts implied, that the best way to preserve water quality is to preserve the land that filters and feeds the headwaters, rivers and wells that bring water to us.



“Failing to capture and infiltrate storm water is short-sighted. It’s a total loss of the resource; you’re throwing it away.”

— John Hoekstra, director of watershed advocacy for Green Valleys Association

A very wet state

And there’s plenty of it. With 83,000 miles of rivers and streams, our commonwealth has more stream miles than any other state in the continental United States, according to the Pennsylvania Department of Environmental Protection.

Pennsylvania receives a healthy rainfall — about 42 inches in an average year.

We have more than 3,900 lakes, reservoirs and ponds and estimates of our groundwater reserves range from 47 to 80 trillion gallons.

And we’re not shy about using it.

DEP estimates we withdraw 9.5 billion gallons a day from ground and surface sources.

About 88 percent of Pennsylvanians get their water from some type of public drinking water system; the rest from more than one million individual wells, the second highest number in the U.S.

In the Schuylkill River Watershed, well usage is on the rise.

From 1985 to 1995, surface water withdrawals increased by only 6 percent while groundwater withdrawals jumped by 31 percent.

The Schuylkill Watershed is all part of the massive Delaware River Watershed, which is 13,539 square miles. Of that, 6,422 square miles, or about 50 percent, lies in Pennsylvania.

About 15 million people, roughly 5 percent of the nation’s population, rely on the waters of the Delaware River Watershed for drinking and industrial use, according to the Delaware River Basin Commission.

However, it only drains four tenths of one percent of the total land area in the continental U.S.

“We have water,” John Hines, executive director of the DEP’s Water Planning Office told Pennsylvania Township News in July. “We’re water rich, but the question is how we’re using that water and how we’re planning for the future.”

Photos by John Strickler/The Mercury

Advocates say standard storm water retention basins, like this one at the Pottstown Center, do not let water infiltrate into the ground, but rather flush rain into over-stressed streams. More infiltration would make deep wells, like the one being drilled below, less necessary.

Water has many names

For years, engineers, state officials and scientists have divided water up into categories — groundwater, wastewater, storm water.

But all those distinctions really demonstrate are differences of time and location.

Storm water will eventually become groundwater or surface water and, as such, may be drawn up to become drinking water, after which it becomes wastewater and, after treatment, surface water once again.

“When I went to school, you were either a water engineer, or a wastewater engineer and you never talked to the guys on the other side of the wall,” said Nicholas DeBenedictis, chairman and CEO of Aqua America.

“There isn’t an office of people who think they know everything,” said Jeff Featherstone, a former staffer at the DRBC who now teaches at Temple University’s Center for Sustainable Communities.

“The chief of clean water is not always talking to the chief of water allocation,” he said.

Michael Stokes, assistant director of the Montgomery County Planning Commission agrees.

“One of our biggest frustrations with watershed management was for decades, you had three or four agencies — the water quality people, the water supply people who are interested in 50-year-projections, the storm water management people and the mysterious groundwater geologists,” said Stokes.

“And none of these people talked to each other, even though all these things overlap,” he said.

Connecting the dots

It’s been more than 25 years since the state recognized, in the form of a state water plan, that all these things overlap. That work is underway now and Stokes, along with Upper Pottsgrove Commissioner Julie Gallisdorfer and John Hoekstra, director of Watershed Advocacy for Chester County’s Green Valleys Association, are all part of the effort.

Under the authority of Act 220, the state has been divided up into large watershed committees, each of which is charged with studying the problems and issues within regions and reporting back to the whole.

The Delaware Committee, of which these local officials are a part, is chaired by Carol Collier, the director of the Delaware River Basin Commission and a resident of Fort Washington.

Their charge is a big one.

“Our goal is to determine a water budget,” Desiree Hardy-Dudley, who helps coordinate the plan for the DEP, said of the state water plan.

“The state committee really wants the water plan to be a tool, and it has to be written so it’s valuable to a municipal supervisor, a developer or a business,” Collier said.

But the value of planning may be hampered by a serious lack of data.

“The last reliable data we have is from 1996,” said Hoekstra. And you can’t manage what you can’t measure.”

The problem is a lack of funding.

The last time the DRBC received the federal funding required by law was in 1997. “That makes \$5.7 million we’re owed by the feds,” said Collier.

Ironically, the funding shortfall couldn’t come at a worse time. “Just as people are starting to realize how important a resource water is, we’re being asked to do more, but we’re being funded less,” said Collier. “So, too often, our answer has to be no.”

But for now, there is at least funding at the state level for the statewide water plan.

“The real question is can we provide for our citizens’ water needs considering the build-out scenarios we’ve seen,” said Hardy-Dudley.

Ironically, part of the problem is that citizens’ water needs have been provided so reliably up until now that it’s hard to convince people there could be trouble on the horizon.

“Our problem is we did our job too well,” said Christopher Crockett, who manages the Philadelphia Water Department’s office of watershed protection.

“Everyone knows the water will be there when they turn on the tap and they have confidence it will be safe,” said Crockett. “They did not have that confidence at the turn of the century. Providing water has become a silent service.”

“We’re more reliable than the electric company,” seconded DeBenedictis of Aqua America.

“Nobody drinks the water in Mexico, but no one gives it a second thought here,” he said. “Think about the last time you turned the spigot on and nothing came out.”