

# LANCASTER NEW ERA

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## The restoration of Lititz Run

Despite black marks, waterway benefits from groundbreaking inroads by a local coalition.



CHRIS EMLET / NEW ERA



Warwick Township manager Dan Zimmerman stands beside a restored segment of Lititz Run.

The last few months, you would think Lititz Run, that 7-mile-long stream that bubbles out of the ground in Lititz Springs Park and makes a beeline for the Conestoga River, is one of Lancaster County's most troubled waterways.

Study: Lititz Run watershed singled out for having a high concentration of nutrients flowing into the Conestoga River.

Study: Pharmaceuticals found in Lititz Run.

Story: Listerine mouthwash leaks into Lititz Run.

Do not be misled.

For more than 25 years, a rare partnership of citizen activism and municipal cooperation has forged one of the most effective and decorated restoration projects in the nation.

Notes the state Department of Environmental Protection, "Lititz Run is one of the few watersheds in the state that has shown an enormous amount of progress with working towards restoration prior to development of (a state-mandated cleanup plan)."

In 2002, the U.S. Environmental Protection Agency declared the Lititz Run effort a "National Showcase Watershed."

As to those black marks: n Pharmaceuticals thrown away by or passing through people have been found in every stream nationwide that has been tested below sewage plants.

High nutrients in Lititz Run? The study was taken when the stream was at a summertime low flow and much of the nutrients from farming and the Lititz Borough Sewage Treatment Plant were concentrated. The sewage plant, which affects about half of Lititz Run, will undergo \$13 million in improvements next year, resulting in a 20 percent reduction in nutrients.

The Listerine incident: a pipeline break hoped not to be repeated.

Since 1992, groups involved in making Lititz Run a cleaner stream for fish, drinking water, the Chesapeake Bay and public recreation have been recognized with four state and national awards, been featured in many publications and have nailed down a dozen grants and donations totaling nearly \$1 million.

The proof is in the pudding. A stretch of the creek now has reproducing wild trout, much to the delight of fly fishers. The Pennsylvania Fish and Boat Commission

is in the process of upgrading the stream's classification from warm water fishery to cold water fishery that can support trout.

And a recent inspection by DEP found the stream about two aquatic bugs shy of being removed from its "impaired stream" status that almost all Lancaster County waterways find themselves in. The presence of pollution-intolerant insects is the main criteria DEP uses for gauging stream health.

As an example of the groundbreaking restoration inroads by the local coalition, a door-to-door effort is well under way to get at least 95 percent of the 100 farmers — including Plain Sect farmers — in Warwick Township to act on tailored conservation plans to save soil runoff and help watershed streams.

The project, first of its kind in Pennsylvania, is being carried out by the Lancaster County Conservation District, Warwick Township and TeamAg, Lititz-based consultants, with funding from the private Chesapeake Bay Funders Network.

With a 75-percent participation rate already, it will be used as a template for deployment elsewhere in Pennsylvania and states that drain into the Chesapeake Bay.

"The farmers realize they can make a difference," says Sallie Gregory, education coordinator with the conservation district.

The Lititz Run watershed drains 17 square miles including Lititz Borough, almost all of Warwick Township and small sections of Penn and Manheim townships.

The restoration is working because of a rare partnership dance that has hooked up all forms of land users, developers, homeowners, businesses and farmers.

Although the restoration has involved a cast of hundreds, at the heart of it is Warwick Township itself, the Lititz Run Watershed Alliance citizens group and the Donegal Chapter of Trout Unlimited.

The marriage of the watershed group with Warwick Township — the township helps the alliance secure grants, among other things — is particularly unusual.

"It's rare in Pennsylvania to see a township involved" in stream restoration, says Matt Koffroth, watershed specialist with the conservation district and a member of the watershed group.

"The only way in Pennsylvania we're going to get a lot of streams off

the impaired list is in working with municipalities. I think the Lititz Run effort is one of the models to look at."

And interest hasn't waned because the effort makes the restoration part of the community's way of life.

There are riparian parks and walking paths along Lititz Run and tributaries. Each year, hundreds of area school kids come streamside for a watershed awareness day to plant trees or otherwise be made to feel the stream is a part of their life.

"They've done a tremendous amount of effort not only in stream restoration, but also education. There's a lot of community involvement," observes Koffroth.

"We feel it's a quality of life issue," says Dan Zimmerman, Warwick Township manager.

At a time when most local officials are scared to death to commit their own taxpayers' money to something not required, Warwick Township leaders have embraced a we'll-show-you-how role.

This fall, at its Warwick Municipal Campus, the township opened a parking lot and sidewalks with a porous macadam surface that allows rainwater to flow down, rather than be whisked away with pollutants.

Rainwater then flows into a water garden berm, then into two filtering stormwater basins known as "bio-basins."

Unlike traditional stormwater swales where the goal is to catch dirty water and release it as quickly as possible into a surrounding stream, bio-basins hold the water in place, letting sediment and pollutants settle. By the time the formerly brown water flows into Pebble Creek, a Lititz Run feeder stream, it's clear.

At the same time, the basins are aesthetically pleasing, planted with native plants.

The goal is to entice builders in the township to switch to more environmentally friendly bio-basins — and for homeowner associations to clamor for them. It's what Logan Myers, chairman of both township supervisors and the Lititz Run Watershed Alliance, calls "small ecosystems in your neighborhood."

"It's how we educate the community," says Zimmerman, also a 10-year member of the watershed alliance.

The key, he says, is a holistic and cooperative approach.

"We make requests of 6,000 homeowners, industries, sewer authorities and farmers. Everybody wants clean water — it's a common ground. How we get there is the key. We have to keep hammering home that clean water just doesn't happen. You have to do your part."

To builders and homeowners considering bio-basins, "We have to convince them it's just not a bunch of weeds in there," Zimmerman notes.

To farmers, township officials and watershed alliance members try to show how keeping livestock out of a stream saves the fertile topsoil that gives the farm its value.

And it's working. "A number of farmers who wouldn't give us the time of day are now participating," reports Zimmerman.

Adds Myers, "The whole community has donated a lot of time and resources to keep this vision alive."

The restoration effort has targeted one stream segment at a time. Every mile has had work done on it, be it bank-stabilizing riprap, cover for trout or a small wetlands to catch salt and oil running off busy Clay Road.

Certainly, the work isn't done. Urban runoff in Lititz Borough is still a factor. And well over half the land use in the watershed is agricultural. In 1982, before work began, annual soil erosion rates exceeded 10 tons per acre, almost double the state average.

Even with vast inroads made in on-the-farm practices, there is still runoff and hundreds of years worth of buried topsoil, called "legacy sediment," lining the stream.

"We're trying to undo 300 years of past practices," says Zimmerman.

"People have to realize that the situations that are present haven't happened overnight and sometimes there is no quick fix," says John Repetz, a spokesman for DEP.

Some 5.4 miles of Lititz Run remain on the state list of impaired streams, though removal may be getting close. Sediment, nitrogen and phosphorus in the stream must be reduced more.

But the gains have been incremental and steady.

Says Zimmerman, "We still have a long way to go, but who knows how far we can take it."