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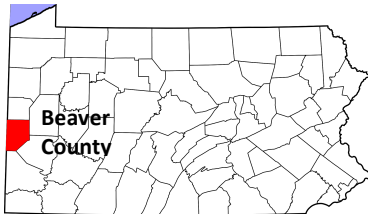
WREN SEPTEMBER 2014 WATER POLICY NEWS FEATURE

Next in a Series Profiling Small Water Systems in Pennsylvania

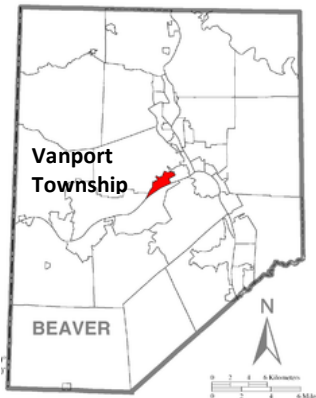
Vanport Township: A Small System with a Tall Order to Preserve Clean Water

By Lynda Ginsparg

In this issue of Water Policy News we continue our series spotlighting source water protection efforts by small water systems with a profile of the Vanport Township Municipal Authority in Beaver County. We take a look at why they took action to implement a source water protection plan to ensure safe, reliable drinking water for their community.



The maps show the location of Beaver County in Pennsylvania. The county, highlighted in red above, sits at the westernmost edge of the state. Below, tiny Vanport Township is a small sliver of land in the middle of the county along the Ohio River.



Cleaning up years of contamination and bad habits was a tall order for the small community of Vanport Township in Beaver County, PA. But with determination and the support of experts at the state’s Department of Environmental Protection (DEP), controlling threats to the water system became the top priority. The collective efforts of the Vanport Township Municipal Authority (VTMA) and the DEP led to the development of a game plan to help assure safe drinking water for the township and the neighbors its serves.

The VTMA provides water to the township’s 1,400 residents and also serves the drinking water needs for neighboring communities nearly seven times its size. In addition to serving the township, the VTMA provides water to more than 7,000 residents in neighboring Brighton Township and more than 2,500 people in Ohioville Borough. That’s more than 10,900 people served by the water system from a township no bigger than 1.2 square miles in area.

Established in 1949, VTMA’s source water is ground water. They rely on six municipal wells located in a wellfield along the Ohio River. While the locale is water-rich, the area has not been without its problems historically. Two significant factors became the motivating forces that led first to the development of a Wellhead Protection Plan, which later progressed to form the Source Water Protection Plan (SWP) for the community.

The first contamination challenge Vanport faced was the discovery of high concentrations of trichlorethylene (TCE), a degreaser used for cleaning equipment, that had been prevalent in the groundwater since the 1980s. According to David Brooks, superintendent of the VTMA, the contaminant likely came from the former Westinghouse manufacturing plant and was a byproduct of plating materials used to build electronic switching gears. Use of TCE was customary in that process. Brooks, who has lived in Vanport for 40 years, said though the company reduced its

workforce and eventually ceased production, there has been a succession of companies in the manufacturing plant during the past 30-40 years; some have been subsidiaries of Westinghouse.

The contamination was noted in a [2003 Source Water Assessment Report](#) written by the DEP. Without expressly admitting responsibility, Westinghouse later agreed to a settlement with the DEP that covers the installation, operation and maintenance of aeration equipment for the removal of TCE from the groundwater; the equipment is operated by the township's Municipal Authority. The treatment has been effective in dramatically decreasing the traces of TCE found in the water, based on recent water quality samples. *(Update: Another manufacturer is currently operating in the building now. No problems from this manufacturer have been noted to date.)*

A SOURCE WATER PROTECTION PLAN RISES FROM THE PIT

A major area of concern to Vanport officials was an area known as “the pit” that was used for many years as a dumping area for unwanted items of all types, including yard waste from residents and lawn services.

“When no one knew any better, a lot of things were thrown in the pit, a lot of things went in there,” said VTMA’s Brooks. He said that the habit of dumping into the pit could stem from a lack of wanting to know, but information about the negative effects of dumping is now made known to the public. *“What your dad or granddad did might have been okay, but not today. We’re paying the price for it now,”* he added.

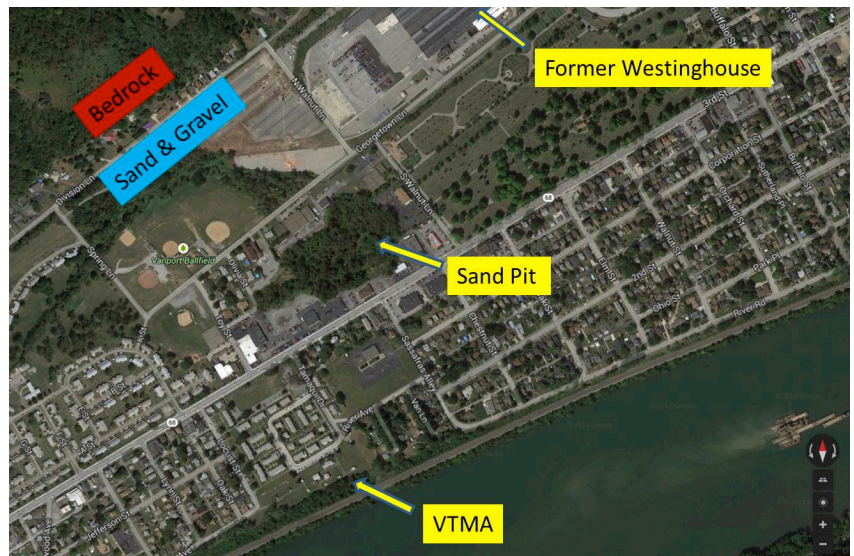
What motivated officials in Vanport to move forward from the findings outlined in the Assessment Report to development of the full-fledged Source Water Protection Plan were the threats to their water system from the pit, according to Thomas McCaffrey, Geologic Specialist in the Bureau of Safe Drinking Water at the DEP Southwest Regional Office. McCaffrey was one of the authors of the 2003 report that outlined the state of Vanport’s water system. Vanport officials credit McCaffrey with being their mentor in formulating the township’s SWP plan.

“Tom is the guru of wellhead protection,” according to Gary Grimm, head water plant operator and wastewater operator for the VTMA.

The pit is an old sand and gravel quarry located upgradient from Vanport’s wellfield. Originally 70-feet to 80-feet deep, years of over-excitation caused groundwater to come to the surface, McCaffrey said, so excavation in the pit was eventually stopped. As large as a city block, the quarry was closed in the early 1960s and has long since been abandoned. It now

What is Source Water Protection?

Source Water Protection (SWP) is a voluntary effort to take action to identify and prevent contaminants from entering public drinking water sources. The goal of source water protection is to protect public health and the future of the drinking water system by safeguarding groundwater (also called “wellhead protection”) and surface water sources (lakes, streams, rivers) used for public water supply. Preventing contamination is much less expensive and easier than cleaning up a contaminated source or finding a new source.



This aerial view shows the location of the former Westinghouse plant and the abandoned sand and gravel pit relative to Vanport’s wellfield, shown at the arrow at the bottom of the photo along the river.

Image courtesy of Tom McCaffrey, PA-DEP.

measures about 55'-60' deep, with trees growing in the bottom that stand about 50-feet to 60-feet tall. The ground has never been returned to its natural setting and since the depth of the pit is about the same as the depth of the groundwater, the pit is now like a wetlands area, McCaffrey said.

A NIGHTMARE WAITING TO HAPPEN

With the loss of a protective soil layer, the groundwater had been exposed, providing the constant potential for contaminants to leak into the groundwater, McCaffrey added.

"It was critical for Vanport to try to protect this (area) because if someone dumps a drum down there it could get directly into the water," he said, adding that officials in Vanport knew the pit was a concern because runoff from the former Westinghouse plant had been passing by the pit toward the wellfield for years.

"Vanport knew this was a nightmare waiting to happen," McCaffrey said.

The area around the pit had already been developed into retail and commercial properties, as well as a few residential homes. Then, in 2008, Township officials alerted Brooks and the VTMA that a developer was interested in filling in and developing the pit. Any work to fill in the pit would have required bringing up the refuse that might be buried under the overgrown vegetation, with unknown consequences as to what would happen if things were disturbed.

With the realization that further development in and around the pit could jeopardize the safety of the wellfield, Brooks soon approached McCaffrey and the DEP about proceeding with a Source Water Protection Plan (SWP). DEP officials had been promoting SWP plans for the region to protect water supply sustainability. Brooks said Vanport saw this as an opportunity to work to protect the pit from any further disturbance.

TAKING ACTION

A steering committee was established in 2008 to help guide strategies for the plan; the group later became the township's Wellhead Protection Committee (seven members comprise the committee, including Brooks and McCaffrey, with Grimm serving as chairman.) Planning meetings held under the state's Source Water Protection Technical Assistance Program (SWPTAP) helped further develop and establish the SWP plan.

"We needed to get this area protected before a developer or someone else could do any (more) damage to it," Brooks said. He credits Vanport township officials with having the foresight to help push the SWP plan forward. *"They said whatever it takes to get this done, get it done,"* Brooks said, adding that the township provided funding when needed to help with the administrative work and groundwater analysis for the plan, among other items.

"They (Vanport) are very proactive. They have one of the most active Source Water Protection Plans in the region, particularly in public outreach and education, developing some partners and doing a lot of the work on their own. Vanport is one of the leaders in trying to form some type of coalition amongst all of the groundwater systems in Beaver County. Vanport is definitely a star in the region. (They've) learned some lessons the hard way, but they're doing a lot of good work out there." – Tom McCaffrey, PADEP.

ALMOST TO THE FINISH LINE

As preliminary work on the source water protection plan was coming to an end and the plan was ready to be finalized, a monkey wrench was thrown into the works. The Pennsylvania Department of Transportation (PENNDOT) notified Vanport that it was planning some major work in the area on Route 68, which would have cut across the south side of the pit. PENNDOT plans called for rerouting the stormwater to flow directly into the pit, Brooks said.

For many years, McCaffrey explained, stormwater from Route 68 was diverted into the pit. VTMA asked PENNDOT officials to reroute the stormsewers that had been flowing into the pit. However, the request was originally met with resistance. Approval of the source water protection plan carried some weight with PENNDOT, as they later complied, according to Brooks.

“By the time we had realized what PENNDOT was doing, it (continued flow of water from the storm sewers into the pit) might have happened. Then we would have been in worse shape (since) you don’t know what’s being transported down the road and what could spill over,” Brooks said.

Vanport’s source water protection plan was formally approved in October, 2009. With potential threats still looming, the township took action to address the safety and security of the sand pit and enacted a township ordinance which levies a \$2,500 fine for those caught dumping anything into the pit, according to Brooks.

“The PENNDOT project, DEP’s work on source water protection, Vanport’s awareness on SWP – everything came to a peak at the right time. It was just perfect timing,” McCaffrey said.

COMMON SENSE TO ADDRESS CURRENT RISKS

One of the biggest risks to the safety of the township’s drinking water supply comes from vehicles traveling through the area and the potential for highway spills of hazardous materials, Grimm said.

“It’s the biggest risk we always have to watch for,” he said, adding that any accident could lead to an immediate and catastrophic spill, if it were to occur. Signage is posted in the township to alert motorists about well protection near access points where spills could contaminate the groundwater. Signs are also posted on state highway Route 376 on both sides of the watershed area, indicating the ‘Water Supply Area’ for several miles in the areas most vulnerable to groundwater contamination.

OPPORTUNITY KNOCKED, WREN ANSWERED

To help reach out to the community, Vanport applied for and has received two [Opportunity Grants](#) from the Water Resources Education Network (WREN) to help support the township’s public education efforts. In 2013, WREN awarded Vanport a \$295 grant for educational materials and fees to participate in Beaver County’s annual Garrison Day fair. Held each June, the event draws more than 10,000 visitors and provides an opportunity for Vanport to get the word out about protecting water resources. In spring 2014, a \$2,000 WREN Source Water Protection Opportunity Grant allowed the VTMA to purchase its own EnviroScape® and groundwater models for community education, so they would no longer have to borrow models from Penn State Extension to do their community outreach.

“The biggest thing is, you open doors,” Grimm said of the funding provided by WREN’s Opportunity Grants. *“Having the material in hand and available, that opens the door. You just need the material and the desire to present it. A little bit of money helps to offset the cost for these projects. It opens so much educational opportunities. The return is enormous,”* he said.



VTMA uses the EnviroScape® model as part of its public education efforts to show how polluted runoff can threaten drinking water, as a young visitor to Garrison Day looks on.

“Education was WREN’s key role. WREN has provided information to get resources, fundamental basics on how to acquire information needed and materials. An integral part of everything I do is through WREN. (They) opened the door to educational materials for us. You can’t make good decisions or take good actions unless you have good information. In order to follow through with a good plan you need a good educational foundation.”
- Gary Grimm, water plant operator for the VTMA.

THE MISSION IS COMMUNITY EDUCATION

With a working source water protection plan in place to reduce threats to the water supply, Vanport can focus on its mission using a key management tool in the SWP plan: education and outreach to its constituents. At Garrison Day, Grimm sets up a display and demonstrates the EnviroScape® model to show water flow and land dynamics and how runoff carries pollutants into the groundwater.

“The goal is to slow it down. We need to slow down the runoff before it goes into the water table,” Grimm said he cautions visitors watching his demonstrations.

He said the goals for his efforts during Garrison Day are many-fold: to get young kids thinking about the importance of groundwater, what’s around them and how to protect it and to talk with high school age students about possible careers in environmental work, for them to see

it as a great business and a chance to help keep the environment safe. For adults, Grimm said he points out that as leaders of the family they need to take conservation and groundwater protection seriously.

“If you ask the question, people will be happy to help you, but you have to ask,” he said. *“There is so much more to be done to complete our mission: the mission is education. We cannot make good decisions without good information. We have to provide the public with good information, that way they can make informed decisions about what they do and how what they do affects other people. We need to bring that awareness to people,”* Grimm added.



Grimm has two educational programs he is taking into the community. One is at Beaver Middle School in the Beaver Area School District, where he talks with seventh grade students about how water comes out of the ground and into the well, the water treatment process, the township’s storage facility and finally how the water gets into the home. He also touches on how to treat wastewater and put it back into the stream as clean water. After the presentation, Grimm demonstrates the process using the EnviroScape® model.



Young visitors to the Garrison Day festivities stop for a look at Vanport’s EnviroScape® and groundwater models.



He said this grade level is a prime age group to receive his message.

“Kids of that age are searching for facts and good information. At that age they need to see a connection between the education they’re receiving and real-world applications. With that in mind, they seem to be inquisitive and mature enough to understand the extent and depth of what is happening,” Grimm said, adding that the demonstration lends a reality showing students what they do affects the environment around them.

Grimm’s second educational program calls for working with the Western Beaver School District in Ohioville Borough. Grimm said he would like to work with ninth and 12th grade classes. He said he would like to invite 12th graders to tour the wastewater facility. He is working with biology teachers at the school to plan this curriculum.



Plenty of information is available at the Vanport Township Municipal Authority booth at the Garrison Day fair, including brochures, pamphlets and information sheets, along with demonstrations of the groundwater and EnviroScope® models. Here, Tina Grimm waits for the festivities to begin.

VTMA TIPS FOR OTHER SYSTEMS

“The first step is always the hardest. Finding the resources was the hardest for me. That’s when I started with WREN. Once I knew where to get materials and supplies that was huge for me to get started,” Grimm said. *“Now that I have information and resources, I’m expanding by contacting my vendors, such as the PA Rural Water Association, to help us promote groundwater education and wellhead protection to get other operators looking at this issue in a broader scope.”* He said he hopes one day to form a coalition with neighbors in Brighton Township and Ohioville Borough.

Grimm has a common sense message to the community:

“Whatever you put on the ground, you’re going to drink it. Whatever you put into the environment, you’re going to consume it some way. We have to be very cautious about how to dispose of waste and chemicals. There are so many little things we can do to protect ourselves. I think that’s one of my big messages – look at what they do as individuals and how collectively we can solve many problems,” he said.



Gary Grimm is the Vanport Township Municipal Authority’s ‘water ambassador,’ spreading the message to his community: protect your drinking water source.

[For More Information on Drinking Water Protection](#)

Please visit WREN's **Source Water Protection website** at <http://www.sourcewaterpa.org/>. Click on the "Your Status" tab to see if your local water supplier has a PADEP-approved Source Water Protection Plan. Download PA DEP's Source Water Protection Technical Assistance Program (SWPTAP) [Fact Sheet](#). To read about source water collaborative efforts in Pennsylvania, click [here](#) and the [WREN Features](#) page Profiles. PADEP is now offering an exciting new Small System Source Water Protection Plan. for information, contact your [PADEP Source Water Protection Coordinator](#) at your DEP Region office.

The [Water Resources Education Network](#) (WREN) is a statewide source water protection partner with PADEP. A project of the League of Women Voters of Pennsylvania Citizen Education Fund, WREN offers assistance and funding for public education about PA water resources. Subscribe to WREN's free e-newsletter, **Water Policy News**, to stay up to date on news, funding and resources. Also see [National Source Water Collaborative website](#) and EPA [Source Water Protection website](#).

PA Rural Water Association (www.prwa.com) is also a valued Source Water Protection Partner working with PADEP and offers assistance to medium and small public water systems for drinking water protection. strategies. PRWA is a member-supported non-profit organization that provides technical assistance and services and certified training to water and wastewater utilities throughout the Commonwealth to assure safe drinking water for communities.

The American Water Works Association (AWWA) has established an industry standard known as the ANSI/AWWA G300-07 AWWA Standard for Source Water Protection in 2007 and has a [guidebook](#) available.

[WREN WILL OFFER SOURCE WATER PROTECTION EDUCATION GRANTS](#) [BEGINNING IN JANUARY 2015](#)

Consider becoming a project leader in your community! Start planning now & apply for a 2015 WREN Grant. For more information on WREN Grants and hundreds of project ideas, please visit the WREN websites at www.waterwisepa.org and www.sourcewaterpa.org