

WREN FEBRUARY/MARCH 2015 WATER POLICY NEWS FEATURE

Another in our Series Profiling Proactive Water Systems

Red Lion Roars In as a Leader with Actions to Preserve Healthy Drinking Water

By Lynda Ginsparg

In this issue of [Water Policy News](#) we continue our series spotlighting source water protection efforts by proactive water systems. This month we profile the Red Lion Municipal Authority in York County, which jumped in early and has gone beyond legislation to protect the community's drinking water.



A SOURCE WATER PROTECTION PLAN COMES TO LIFE

In the world of source water protection, the [Red Lion Municipal Authority](#) (RLMA) in York County is considered “*forward thinking*.” This is according to Catherine M. Port, Geologic Specialist for the Southcentral Region in the PA Department of Environmental Protection’s Safe Drinking Water office; Port’s region includes Red Lion Borough.

“They do more than most – education in terms of contributions to newsletters, presentations to local community groups, their presence at the annual street fair – they cover a wide audience,” said Port. *“They have involvement at the county level with the planning commission and with the conservation district. Red Lion has made the connection between land use and drinking water quality,”* she added in support of her views about the Authority.

Consider this: Source Water Protection (SWP) is voluntary in the Commonwealth. The state’s Department of Environmental Protection (DEP) was mandated to conduct and prepare Source Water Assessment reports of all public water supply sources beginning in 2002 under requirements of the federal Safe Drinking Water Act. At this point in time, however, water systems are not required to follow through with creating and implementing a SWP plan for their communities. Enter the officials at the Red Lion Municipal Authority who read the Assessment report on their system and concluded that there were “*good arguments and reasons for going through the effort of preparing a full SWP plan.*”

“We took a look at that report and we thought there was an opportunity here to build on that particular effort, even though it wasn’t required,” said Carroll “Skip” Missimer, chairman of the Red Lion Source Water Protection Steering Committee.

Red Lion Water Facts:

The Red Lion Municipal Authority provides drinking water to 24,000 consumers in Red Lion Borough, neighboring Windsor Borough Authority and portions of Chanceford, York and Windsor Townships. It also sells bulk water to the Dallastown/Yoe Water Authority. The RLMA's water sources come from the Cabin Creek dam in Windsor Township and Beaver Creek dam in Chanceford Township; both are surface water sources.

The Red Lion Assessment Report, completed by DEP in 2003, found that the Authority's sources of water are most susceptible to accidental spills along roadways and from runoff from agricultural activities. RLMA's water source is surface water primarily from two dams: Cabin Creek in Windsor Township and Beaver Creek in Chanceford Township, which supply more than 99 percent of the Authority's water; RLMA can also pump some water from the Susquehanna River, if needed, but only does so under the most severe drought conditions. In addition to spills from transportation accidents and agricultural runoff, several non-point sources were noted in the report as areas of concern, including leaks from underground storage tanks, urban stormwater runoff, pesticide and herbicide use and storage, on-lot septic systems and household hazardous materials.

In preparing to create their SWP plan, RLMA officials met with representatives from DEP, attended a WREN SWP seminar and decided that there were enough good reasons for going forward with development of a full SWP plan. RLMA applied for a small grant from DEP to help cover the costs of consulting services to map out details for the plan, then spent three years putting the plan together before submitting it to DEP for approval. The SWP plan was submitted to DEP in April 2008 and quickly received approval the next month.

Components of the plan include public education, emergency management, identifying sources of pollution, municipal cooperation and security upgrades to the water treatment system. Missimer said that RLMA has kept the plan up-to-date since its approval.

"Red Lion was one of the first communities in York County (from a small system perspective) to get involved in source water protection plans. It's been a good exercise overall and we've benefitted from it," Missimer said.

With approval of the plan in hand, Missimer said that the focus immediately turned to protecting the Cabin Creek and Beaver Creek watersheds, which supply 99.9% of RLMA's water. *"Those watersheds are relatively small and fairly easy for us to get a handle on,"* he said.

Working in conjunction with officials at the Pennsylvania Rural Water Association (PRWA), Missimer said RLMA conducted a "driving survey" of both watersheds to 'eyeball' potential sources of contamination that could be problems for the Authority.

"(Some of) our biggest issues were the numerous highways and many state and county roads that pass through out watersheds and ... trucks that could have an accident and dump hazardous materials into the water," he said.

AN EMERGENCY PLAN

To raise awareness of potential highway spills, officials in Red Lion worked with the state's Department of Transportation (PENNDOT) to place signs along state roads alerting drivers that they are entering a drinking water supply area. Signs are located on state highways in Windsor, Lower Windsor and Chanceford townships (the two watersheds are located in the three municipalities.) The signs were installed in 2008, with help from a DEP grant, and were one of the first checklist items completed under the new SWP plan. RLMA members met



This sign along State Road 74 in Windsor Township alerts drivers that they are entering an area of potential threat to the water supply.

with emergency officials – fire, police and first responders – to keep them in the loop about the plan. The RLMA provided laminated maps of the watershed to emergency personnel so that if there was a spill they could immediately notify water plant personnel to take precautionary measures to make sure any contamination did not get into the drinking water supply, according to Missimer. The Authority has also developed an action plan that allows emergency responders to gain access to the water plant facility in the event of an emergency situation that could endanger the lives of the plant’s personnel.

“The bottom line here is (that) this demonstrates there’s pretty good communication among the relevant parties, whether it’s the police department or the municipality or DEP, everyone makes the required phone calls pretty quickly so everyone has time to respond without hitting the panic button,” Missimer added.

Another major audience that RLMA wanted to engage through their SWP plan has been the agricultural community. While this issue is not unique to their watershed, Missimer pointed out, Red Lion does face the problem of suspended materials (such as dirt and sediment that gets suspended in the water during a storm event) that enter the creek and polluted materials that wash off adjacent farmland; in addition, stormsewer pipes from residential and commercial development contribute to the runoff problems. RLMA spent about \$700,000 in 2014 dredging the reservoir to recoup its storage capacity; this was the first time the reservoir had been dredged since the after-effects of Hurricane Agnes in 1973.

One of the other big concerns for the RLMA is excess nutrients – nitrogen and phosphorous – that can cause algae blooms in the reservoir, which in turn can have an effect on the water, giving it a bad taste. To help tackle the algae problem, RLMA is partnering with York County Extension and Penn State Extension to take part in educational programs with a goal of reducing the amount of manure on fields that could otherwise result in runoff to the waterways.

“Red Lion is one of the groups in the state that has developed a true, solid program, looking at community partners and leaders that can engage with commercial businesses. The effects of (Red Lion’s) source water planning have been far-reaching. Good programs are ever-evolving . . . bringing in diverse people with different perspectives. They (Red Lion’s steering committee) have been doing that from the beginning.” ~ Matt Genchur, Source Water Protection Program Manager, PA Rural Water Association



John Seitz, center at the podium, from the York County Planning Commission and a member of the RLMA’s SWP Steering Committee, addresses the group at the Authority’s agriculture meeting in March 2014.

Highlights in the History of the Red Lion Municipal Authority –

- Red Lion Water Co. was founded in 1893.
- The original water source was from springs at the head of Mill Creek near Springwoods Road and on the Posey Farm east of Red Lion near Mazie Gable Elementary School.
- In 1925 a dam and treatment plant were constructed on Cabin Creek in Windsor Township. A 12-inch potable water transmission main was installed from the treatment plant to Red Lion to a new one million gallon reservoir at Fairmount Park.
- In 1956 the Red Lion Water Co. constructed an additional dam and pumping station on Beaver Creek.
- RLMA was incorporated as a not-for-profit general municipal authority in 1959.
- In 1984 the Authority constructed a second potable water reservoir in Windsor Township and a 16" potable water transmission main
- In 1988 the Authority constructed a new water treatment plant at the same location as the 1925 plant.
- Also in 1988 the Authority entered into a Bulk Water Sales Agreement with Windsor Borough to supply all of the potable water for their system.
- 2008 – RLMA receives approval for its Source Water Protection Plan, making it one of the first communities in York County to implement a SWP plan.
- 2015 – RLMA prepares to go online with its new Water/Wastewater Treatment plan.

"We're trying to act as a facilitator between farmers and York County Extension to try to get some of these folks into the program, if they're not already in the program," Missimer said, adding "we're trying to help them understand the relationship between what they're doing and the effects on the water supply."

In order to remain proactive with its agricultural neighbors, RLMA hosted a meeting in March, 2014 attended by 30 farmers and landowners in the Cabin Creek watershed to discuss programs available through both the state and federal governments to help farmers reduce runoff and educate them on how runoff impacts drinking water quality.

"It was an educational effort," Missimer said. "We want to ramp-up this effort during the next year or two. This was a two-way communication. We were interested in what their concerns were as well as sharing our concerns with them. We see any plans moving forward as cooperative," he said, adding that RLMA is looking to form partnerships with its agricultural neighbors.

"Red Lion is engaging the land owners in their protection area. It's something very unique that Red Lion is doing that other systems are not doing," the DEP's Port added.

The effects of the RLMA's planning have been far reaching, in terms of the numbers and types of people in the community who have been involved in some fashion with the Authority's source water protection work, according to Matt Genchur, Source Water Protection Program Manager for PRWA. Genchur has worked with Missimer at Red Lion since 2006, and is a member of the RLMA steering committee (as is the DEP's Port). He said RLMA officials have successfully reached out to members of the business community, elected officials (both municipal and those connected at the state level), the agricultural community, the county conservation district, county planning department and neighboring municipalities. Genchur said the RLMA is one of the groups in the state that has developed a *"true, solid program,"* looking at how they can connect with their community partners and leaders, as well as engage with commercial businesses.

A NEW WATER TREATMENT PLANT PREPARES TO GO ONLINE

The RLMA is nearing completion of its new \$14 million water/wastewater treatment plant (WWTP) that is expected to come on-line in March 2015, according to Keith Kahwajy, Manager/Superintendent of the RLMA.

Why the need for a new treatment plant? Kahwajy said the Authority was directed by the DEP to rehab the existing plant and build a wastewater facility. He said building a new plant just made sense, and will allow the RLMA to combine a new water treatment plant (WTP) for distribution to customers that will also serve as a

wastewater facility. The current water treatment plant is being converted for this purpose and the new plant will be solely for water treatment. Kahwajy explained that this WWTP is not for sewer treatment, but rather for the discharged water for completing filter washes at the new WTP. The water that is used to wash the filters and take any dirt out of the filters is gravity-flowed to the WWTP. At the WWTP the sediment or dirt will settle to the bottom of the basin. The clean water on top will be sampled and discharged to a stream. The residual sediment or dirt that is on the bottom of the basin will be removed and hauled away. Currently this material is used as a soil conditioner.

“We wanted to build a new water treatment plant because the current plant had reached its capacity to treat the water adequately,” Missimer said. “It became apparent that the increasingly stringent drinking water quality standards were stretching the old water treatment plant to the maximum. In order to continue to provide our customers with high quality water, the Authority decided to build a new plant rather than repair (or) rebuild the old plant,” he added.

Kahwajy further explained the process: The RLMA interviewed engineering firms to rehab the existing WTP to meet current and possible future regulations initiated by EPA or DEP. It provides a means to handle

the wastewater that is created by filter washes. *“It would have been very difficult to keep the existing WTP in service and complete the rehab. After receiving a proposal for the above activities from the engineering firm, the RLMA asked for a proposal to construct a new WTP and also a means for handling the wastewater. It made financial sense to go with the latter. The new WTP would be constructed to meet current EPA and DEP regulations and be able to handle any possible new regulations. The WTP was also designed to be expandable . . . if the need would arise for additional capacity. At the existing WTP location, this would not have been possible,”* Kahwajy said.

To help gain community support for the new plant the RLMA conducted a tour of the plant in July, 2014 as it was under construction. Thirty-eight people attended,



Top: Guests take a tour of the Red Lion Municipal Authority's new water treatment/wastewater treatment plant. Skip Missimer, chairman of Red Lion's SWP Steering Committee, is pictured fourth from the left, in the black shirt. Below: The new plant, scheduled to be online in March 2015, is located next to the existing plant, which will become a wastewater treatment plant.



Brad Sprenkle, left center in photo with arms extended, explains how the water gets from the raw pump house to the treatment plant. Sprenkle is the Water Treatment Plant Supervisor for the RLMA. The group is pictured in the existing plant.

including members of the Authority's SWP Steering Committee, several from the agriculture community who had attended the earlier meeting in March 2014 and representatives from Windsor Township, Red Lion Borough and the York County Planning Commission. Coincidentally, the dredging project at the reservoir was taking place at the time of the tour, allowing agricultural landowners to see first-hand how runoff affected the reservoir, Kahwajy said.

STAYING PROACTIVE

In an effort to be proactive and stay true to the goals of its SWP plan, RLMA's steering committee meets quarterly.

"We thought this was a good opportunity to reinvigorate the SWP plan and committee, that's why we increased our meetings from two to four times per year," Missimer commented. The committee is comprised of a diverse group of experts, including representatives from local government; a staff member who works for the local state representative; business owners from the local community as well as PRWA's Genchur and DEP's Port.

"We generally have some robust discussions on the committee to keep the ideas flowing," Missimer said, adding that the meetings are open to anyone in the community.

AN AWARD WINNING SYSTEM

All of this outreach has not gone unnoticed. In 2011, the Red Lion Municipal Authority was recognized by PA Rural Water Association as the Source Water System of the Year, as a result of the development and implementation of its SWP plan. Missimer downplayed the award, saying that other water systems in York County are also doing source water protection work.

"They thought we were doing a pretty good job of putting our SWP plan into action," Missimer modestly said of the award. PRWA's Genchur was more direct in his praise for the system.

"They're doing the right thing when it comes to the (vision) they have and the activities they're trying to implement, being visible in the community and creating a strong source water program, which is why we chose to give the award to them," Genchur said.

"Red Lion has exemplified what we hoped to see – as systems go through the process of creating a plan and getting it approved, they (the RLMA) would then take on a life of their own," Genchur continued. *"We (PRWA) see ourselves as being successful in getting communities organized. At the RLMA, they have learned to guide themselves, create the partnerships they need to create. This was one key component, (in evaluating candidates for the award) they were self-functioning. Red Lion certainly fits that bill,"* he said.

SPREADING THE SAFE DRINKING WATER MESSAGE

The RLMA has made itself known in the community through events such as Red Lion's annual Street Festival. At the annual August event, members of the RLMA board take a turn demonstrating the Enviroscape® models to



The Red Lion Municipal Authority was chosen as the 2011 Source Water System of the Year by PA Rural Water Association at its annual conference.

show what happens during an oil spill, the effects of animal waste moving over the soil to waterways, what occurs during a storm event in a neighborhood and the path storm water takes that eventually ends up in the reservoir. The Street Festival attracts visitors from Red Lion as well as surrounding boroughs and townships and provides an opportunity for the RLMA to share its clean water message.



In this aerial view of the Street Festival guests gather to watch a demonstration by Red Lion's emergency responders. The popular annual festival attracts residents from Red Lion as well as neighboring townships and boroughs.



Top: Young visitors to the annual Red Lion Street Festival stop by the RLMA booth to try their hand using the EnviroScape® Drinking Water & Wastewater Treatment Model. Below, the RLMA booth, located in front of the entrance to the Red Lion Borough hall, serves as the education station and demonstration stop for the RLMA's clean water message. A groundwater model is displayed on the table to the right.



SWP PLAN + EFFORT = AWARENESS

What does it mean to be forward thinking, as Cathy Port first mentioned? Having a long-term vision, backed by a good Source Water Protection plan and most importantly, taking action; these are the keys to protecting the sources to produce healthy drinking water, and that is what the Red Lion Municipal Authority has done.

"Awareness of watershed issues has significantly increased in the last 10 years since we started our SWP plan," according to Skip Missimer.

"We kind of hit the sweet spot, we're in the process of implementing the SWP plan at the same time other things are going on, all focused in the same direction – reducing sediment, stormwater flow... all these programs work together. We have tried to be forward thinking in what we're doing during the past 10 years," Missimer said.

PRWA's Genchur sums up the effectiveness of RLMA's efforts: *"Good programs are ever-evolving, such as trying to bring in diverse people to bring different perspectives and they (RLMA) have been doing that from the beginning,"* he said.

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 SWP PLAN. Information about PA DEP's Source Water Protection Technical Assistance Program (SWPTAP) is available [here](#). Read about more source water efforts in Pennsylvania, click [here](#) and see the [WREN Features](#) page Profiles.

For Information About Spill Response Water Supply Signs

See [Water Supply Sign Information page](#). For more drinking water protection strategies using both Regulatory and Non-Regulatory tools, click on the [Strategies page](#) to learn ways to develop a management plan to protect your community's drinking water.

*The [Water Resources Education Network](#) (WREN) is a statewide source water protection partner. 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, events, 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 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's 2015 GRANT ROUND OF SOURCE WATER PROTECTION COLLABORATIVE GRANTS IS NOW OPEN!



Consider becoming a project leader in your community! Apply for a 2015 WREN Grant; applications are due March 20, 2015. For more information on WREN Grants and hundreds of project ideas, please visit the WREN websites at www.waterwisepa.org and www.sourcewaterpa.org