

# Springs & Sinks

Newsletter of the Spring Creek Watershed Community

## Aspects of the Drought - 1999

By Robert F. Schmalz



Both state and federal authorities have described the hot, dry summer of 1999 as a disaster, a drought comparable to the Dust Bowl of the 1930s, and perhaps the most severe drought on record. Here in Central Pennsylvania, lawns are crisp, crops are stunted, and water supplies — both private and municipal — that depend upon shallow wells or surface supplies are experiencing serious shortages.

Under the circumstances, it is difficult to believe that in the Centre Region, total precipitation through the end of June was less than 0.8 inch below normal. If the unusually dry month of July is included, the total for the year is just 9 percent (2.14 inches) below normal. This modest precipitation deficit for the period of January to July was exceeded substantially in 1988 (-31 percent), 1991 (-23 percent), 1992 (-13 percent), 1995 (-29 percent) and 1997 (-26 percent). Each of these years was acknowledged to be very hot and dry — even a drought — but none achieved the notoriety of the current season. Why, then, is 1999 considered a drought of record-breaking proportion?

The answer lies in the distribution of precipitation, rather than the total amount. Monthly rainfall anomalies (departures from

the "normal" monthly rainfall) for 1999 are tabulated below:

### 1999 Monthly Precipitation Anomalies

January	+2.56 inches
February	-1.27 inches
March	+0.29 inch
April	+0.35 inch
May	-2.27 inches
June	-0.43 inch
July	-1.37 inches

As the foregoing data clearly show, the 1999 precipitation deficit was concentrated mainly during the growing season (a 4.07-inch deficit in May-June-July), when its agricultural impact was most severe and when domestic water use is ordinarily high. If we compare this growing-season deficit with those recorded in previous years (my data extend only through 1988), we find that 1988, 1991, 1995 and 1997 may actually have imposed harsher growing conditions in Central Pennsylvania.

### Precipitation Anomalies, May-June-July

1988	-7.37 inches
1989	6.01 inches
1990	-0.13 inch
1991	-5.54 inches
1992	-3.11 inches
1993	3.03 inches
1994	6.46 inches
1995	-6.87 inches
1996	8.71 inches (record year)
1997	-6.13 inches
1998	5.65 inches
1999	-4.07 inches

The severity of the 1999 drought is aggravated, however, by a longer-term effect. The late summer and fall of 1998 were unusually dry. Total precipitation from August 1998 through July 1999, was 8.7 inches (22.5 percent) below normal. The combined effects of the very dry fall and

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## Watershed Community Meets To Kick Off \$500,000 I-99 Project

The Spring Creek Watershed Community will be holding a meeting on Thursday, October 21 from 7 to 9 PM at the Central Pennsylvania Institute of Science and Technology. The "Living with I-99: Choosing Our Future" program will feature a brief informational presentation on the Federal Highways Administration grant made to Centre County (see page 3), a short discussion on the process and schedule for the project, and, most importantly, the opportunity for attendees to jump start the project by voicing their opinions.

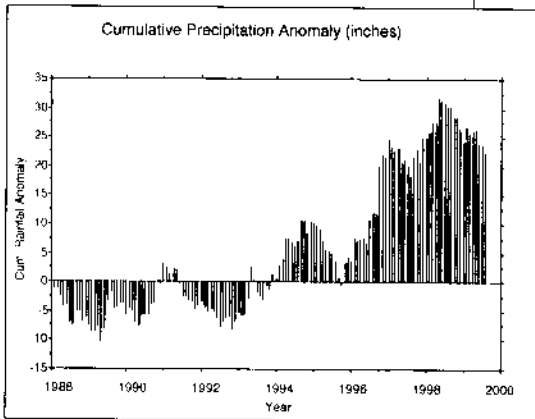
Roxanne Shiels, I-99 Project Manager of the ClearWater Conservancy, will begin the meeting by reviewing how the \$500,000 grant came about, what the project is intended to do, and how goals will be accomplished. Cory Miller, who is currently working with the Benner Township residents to identify what they want the township to be in the future, will discuss "visioning" — one of the tools that will be used in the I-99 project. Attendees will then be asked to work with facilitators to, for the first time on a large-scale, identify the *key issues* that the "Mid-Bald Eagle" watershed (including Spring Creek watershed) will face with the opening of a new interstate.

Watershed Community organizers of the meeting hope that people will express a wide-range of opinions on what they feel are the important factors that need to be addressed in our community so that those developing the project process can hone in on major

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winter and the dry 1999 growing season are clearly evident in the low levels of lakes and



surface reservoirs throughout the Centre Region, and by the problems experienced by water suppliers dependent upon surface supplies or shallow wells.

The State College Water Authority, which serves much of the Centre Region, depends for its supply mainly on deep wells, which are isolated (to a degree) from surface conditions. Perhaps surprisingly, and despite the drought, the Authority reported in July that water levels in its principal wells were within the normal range for this period of the year. Although it may seem paradoxical, the favorable condition of the SCWA wells also reflects a

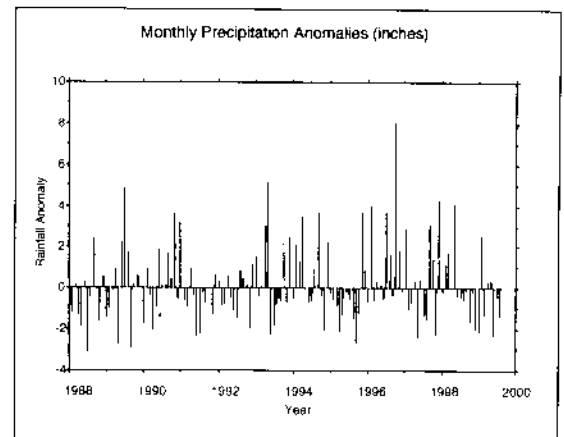
longer-term effect. This can be illustrated by the two diagrams which follow.

In the first figure, I have plotted the monthly precipitation anomalies from January 1988 to present. Even a careful examination reveals no obvious trend or pattern, although the relatively dry interval that began in the summer of 1998 can be identified. The groundwater reservoir is less sensitive to short-term fluctuations than is the water in streams and lakes. Water is slow to percolate down into the groundwater reservoir and slow to drain from it. In some ways, therefore, the groundwater reservoir acts like a storage battery, accumulating reserves of water when

precipitation is abundant and yielding stored water during drier periods.

This effect may be more clearly illustrated by plotting the cumulative precipitation anomaly, calculated by simply adding each month's anomaly to the total of those of preceding months. I have plotted monthly cumulative anomalies in the second figure. Now a clear pattern emerges: From January 1988 until early 1994, precipitation may have been

insufficient to maintain the groundwater reservoir at its "nominal" (whatever that may be) level. From 1994, and certainly from 1996, to the present, there has been ample precipitation to restore and maintain the reservoir at a high level. It would seem that this "storage battery" effect is responsible for the apparently paradoxical situation of abundant ground water in the midst of a drought. It is wise to remember, however, that the delayed response of the groundwater reservoir implies that groundwater reserves may begin to drop several months from now as the full effects of the drought are manifested below the surface.




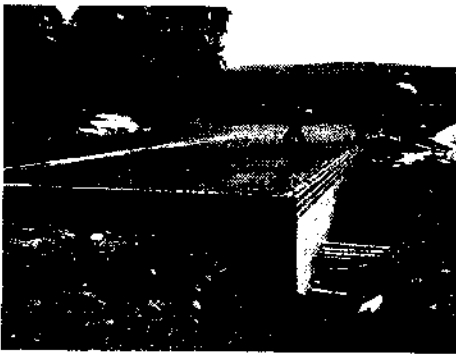
## Everything You Ever Wanted to Know About the Spring Creek Watershed

Want to know the chemical analysis of Spring Creek at the Benner Spring Fish Research Station on Jan. 31, 1965? Or maybe you'd like to learn about the effects of sewage effluent on various stages in the life of the brown trout. Soon you'll be able to stop by the ClearWater Conservancy office and search for such details in a comprehensive database of information pertaining to water quality and quantity in the Spring Creek Watershed.

The bibliographical database was compiled by Michele E. Seman and Robert F. Carline of the Pennsylvania Cooperative Fish and Wildlife Research Unit at Penn State. Funding was provided by the University Area Joint Authority. The emphasis of the project was to catalog historical data as the initial step in identifying critical data gaps.

The database compilers conducted an exhaustive search of libraries, files and personnel of various federal, state, county and local agencies, as well as Penn State

University, for information about the Spring Creek Watershed. They came up with 275 documents, including conference proceedings, dissertations, journal articles, maps, reports, video recordings and web pages. Users will be able to search the database by keywords, authors, agency names and more. 



## Beneficial Reuse Update

The University Area Joint Authority continues to make progress on its Beneficial Reuse Project, the initiative to transform the Centre Region's wastewater into high-quality water.

According to UAJA's Cory Miller, project team members are putting the finishing touches on their study of the first proposed corridor for movement of the treated water from the water treatment plant to Slab Cabin Run in Ferguson Township. The issues of getting the water to its points of use, the best places to recharge Slab Cabin Creek, and the geological formations that affect the process are all addressed in the study. In the coming weeks, copies of the study will be available to the public at each local library, municipal office and via the UAJA web site ([www.uaja.com](http://www.uaja.com)).

In addition, the building that will house the filtration system for the advanced water treatment pilot testing system will be completed by mid-September. Shortly thereafter, three different micro-filtration equipment suppliers will be tested, followed by a reverse osmosis system. According to Miller, the system will be producing drinking-quality water by Oct. 1.

"We welcome anyone to come down and take a tour," Miller said. "You'll gain a lot of confidence in the water when you see what's happening down here."

While beneficial reuse is a common practice in other states and countries, UAJA's system will be a first for Pennsylvania. ♣

## A Cool Half Million for A Watershed

In case you haven't heard, the Centre County Board of Commissioners — on behalf of the Spring Creek Watershed Commission and in conjunction with the I-99 Community Partnership for Sustainable Development — was awarded a \$500,000 grant for the creation of a land-use and sustainability plan for the Mid-Bald Eagle watershed!

Based on the work of the I-99 Partnership, a proposal for \$750,000 was prepared by the Spring Creek Watershed Community and ClearWater Conservancy, sponsored by the Spring Creek Watershed Commission, and submitted to the Federal Highways Administration for its new program known as the Transportation and Community and System and Preservation Pilot (TCSP) of TEA-21 (Transportation Equity Act for the 21st Century). On May 10, it was announced that Centre County was awarded \$500,000 for the "Creating a Community-based Sustainable Future for I-99: A Watershed Approach" project. The proposal was selected from more than 520 applications in a nationwide competitive process. Thirty-four other proposals totaling \$13.1 million will receive funding under the TCSP program.

The funded proposal outlines six major components of the effort to help communities in the Mid-Bald Eagle cope with and proactively plan for the growth that will occur due to the introduction of a new interstate highway:

- 1) Create a collaborative, multi-municipal interchange overlay district model ordinance.
- 2) Gather foundation data to help residents see what the watershed would be like without the land-use and sustainability plan.
- 3) Develop a vision for the year 2020.
- 4) Define the indicators or benchmarks of sustainable living and success.
- 5) Translate the vision into a land-use and sustainability plan for incorporation into municipalities' planning mechanisms.
- 6) Evaluate the process and work of the grant.

ClearWater Conservancy will manage the project on behalf of Centre County, the official grant sponsor. ClearWater will perform most

of the work for the visioning process and will hire consultants to create the policy-level land-use and sustainability plan document.

ClearWater is currently working with Centre County, the Pennsylvania Department of Transportation and the Federal Highways Administration to complete the agreements necessary to begin the project. This group, with the assistance of the Centre Region Metropolitan Planning Organization, is also busy setting up the administrative structure and process that needs to be in place before any work can be performed. Work is expected to proceed sometime in October, beginning with gathering background information and preparing to advertise for consultants.

Three committees will be created to oversee the work of the grant: Administrative Oversight, Technical Oversight and Consultant Selection. As one of the creators of the I-99 Partnership, the Spring Creek Watershed Community, in addition to the Partnership and the Spring Creek Watershed Commission (unofficial grant sponsor), will be represented on both the Technical Oversight and Consultant Selection Committees. Bob Eberhart of Halfmoon Township, who served over the last two years as the SCWC representative at the I-99 Partnership meetings, will serve SCWC on the Technical Oversight Committee.

In the next issue of *Springs & Sinks*, we will provide an in-depth look at the work of the Overlay District Committee of the I-99 Community Partnership for Sustainable Development. We will also answer the question, "What is a Land-Use and Sustainability Plan?" ♣

## Where is the Mid-Bald Eagle Watershed?

The Mid-Bald Eagle watershed is a geographic term developed by the I-99 Partnership to describe that part of the Bald Eagle watershed which houses the portion of I-99 from Port Matilda to I-80 in Centre County. It includes the Spring Creek watershed and is meant to include the more than 20 municipalities that will feel a "ripple" effect of development from the creation of an interstate highway. ♣

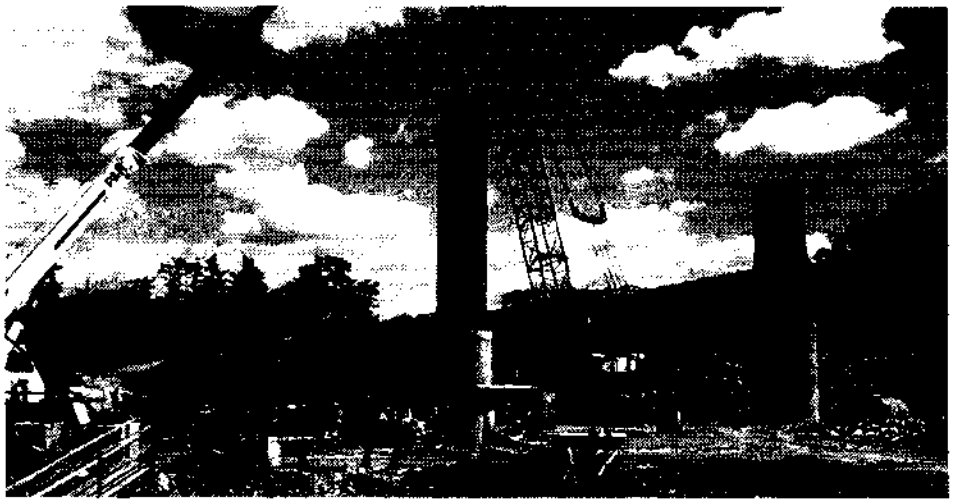
## 20/20 Vision for the Future

ClearWater Conservancy will be seeking input from thousands of watershed residents to "clearly see" what they want the region to look like in the year 2020. This community-based visioning process is the most crucial element of the \$500,000 "Creating a Community-based Sustainable Future for I-99: A Watershed Approach" project funded by Federal Highways Administration. The vision will provide citizen-created recommendations which will be the building blocks of a plan to implement the vision and may change the way that community looks at its resources.

ClearWater will be seeking hundreds of people to participate in a nine month professionally facilitated process to provide the details of: what types of businesses we want in our communities; what types of land uses that we want; what features are worth preserving for our grandchildren; and many other issues that we associate with our high quality of life. ClearWater will be working very hard to ensure that the broadest array of interests, economic and social issues, and geographic regions are represented from the watershed during the visioning.

Other opportunities will be available for those who can't participate in the formal process which will begin at the end of 1999 or beginning of 2000. ClearWater is hoping to reach as many as 10,000 residents (approximately 10% of the population of mid-Bald Eagle watershed) through surveys which will be available on the internet or in the newspaper.

Hind-sight is 20/20, so please take the time to get involved when the opportunities to voice your opinion come up over the next year. If you are interested in voicing your opinion in the facilitated visioning process, please contact Roxanne Shiels, I-99 Project Manger of the ClearWater Conservancy, at 237-0400 or [reshiels@yahoo.com](mailto:reshiels@yahoo.com). 🐾



I-99 overpass on Rt. 144 near Pleasant Gap

## Payoff from Partnering

One of the reasons for the success of the Federal Highways Administration grant was the participation of a wide variety of stakeholders in the I-99 Community Partnership for Sustainable Development.

Approximately 40 stakeholder groups, including business and industry, agriculture, builders and developers, local government, utilities, school districts, Pennsylvania and U.S. legislators, and other interests, participated in a multi-year process organized and administered by the Spring Creek Watershed Community and ClearWater Conservancy. The creation of the group was recommended by the Spring Creek Watershed Commission and highly supported by the Chamber of Business and Industry of Centre County.

From its onset, the I-99 Partnership realized that the introduction of I-99 to the area presents opportunities that, if well-thought-out and properly planned, could simultaneously enhance and protect the local environment, economy and overall quality of life. The I-99 Partnership went through its own mini-visioning process, which resulted in the creation of numerous goals (*Springs & Sinks* July 1998) and a set of indicators to measure success in moving toward those goals. The Partnership also outlined a set of strategies that were the basis for the work plan submitted to the Federal Highways Administration (*Springs & Sinks* September 1998).

The I-99 Partnership itself was evidence to the Federal Highways Administration that several municipalities and other stakeholders were already

collaborating for a better future. It also showed the overwhelming community need for the project, as indicated by the 32 letters of support from community leaders contained in the proposal — a new record for any proposal developed by the ClearWater Conservancy or Spring Creek Watershed Community!

The I-99 Partnership will continue to play an important role in the development of the project through its participation in the Technical Oversight and Consultant Selection Committees. The Partnership will also assist in designing the content of the visioning process. ClearWater Conservancy will continue to provide administrative and organizational support to the I-99 Partnership as part of the I-99 project. 🐾

## What is Visioning?

Visioning is a term used to describe a process and a product where participants are asked to take a hard look at present and future community issues, express their thoughts, and gain consensus on what they value and what they would like to change. A typical visioning process includes a discussion of "Where are we now?"; "Where are we going?"; "Where do we want to be?"; and, finally, "How are we going to get there?"

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## Until We Meet Again

As some of you may know, I will be moving out of the Watershed Coordinator position for the next 28 months and into a new position with ClearWater Conservancy as Project Manager of "Creating a Community-based Sustainable Future for I-99: A Watershed Approach."

In the next month, ClearWater will be hiring a new Watershed Coordinator on a temporary basis to serve the needs of the Watershed Community. I am sure this person will quickly realize how special the SCWC is. The "Community" name alone may give my successor a clue. "Keywords: A Vocabulary of Culture and Society" appropriately defines "Community" as a warmly persuasive word to describe an existing or alternative set of relationships. "Keywords" goes on to say, "What is most important, perhaps, is that unlike all other terms of social organization (state, nation, society, etc.) it seems never to be used unfavorably, and never to be given any positive opposing or distinguishing term."

This may seem a little awkward because I am not really leaving, but I just wanted to say that I have tremendously enjoyed working as the Watershed Coordinator serving the Spring Creek Watershed Community over the past year and a half.


I am very excited about the I-99 project and eagerly anticipate its start. I have extremely high hopes that the end product will have a huge impact on maintaining or improving the high quality of life our community enjoys and that it will be a model for other communities to follow. I feel very fortunate that I can be part of the process.

I will miss hosting SCWC meetings and working with the Coordinating Committee as closely as I have, but I look forward to expanding my relationships with other important stakeholders in not only the Spring Creek watershed but also the Mid-Bald Eagle watershed. Don't worry about me; you'll be seeing "visions" of me often throughout the watersheds!

Fondly,  
Roxanne Shiels

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issues that affect a broad-range of interests. Feedback developed during the meeting will be used to guide the large-scale visioning process throughout the Mid-Bald Eagle watershed.

So please, if you have any interest in shaping the future of our community, attend the October 21 meeting! The ClearWater Conservancy looks forward to working with you and *for you.* 

## V O L U N T E E R S C O R N E R

One of the ways ClearWater is reducing the overall cost of the I-99 project is by utilizing volunteers as much as possible. If you or your business would like to be involved in a project very important to our community and have some time to spare, have we got a job for you!!!!

The following are just some of the odd jobs we have available, although we are sure we will think of many others!!!

- Babysitting for public meetings
- Children's activities
- Facility coordination
- Food preparation
- General office work
- Geographic information systems

- Graphic arts
- Media relations
- Meeting coordination
- Meeting facilitation
- News release preparation
- Newsletter development
- Notetakers/scribes
- Public speaking
- Refreshment coordination
- Survey development
- Web-page design and maintenance
- Other opportunities to be involved include donating refreshments, office supplies, meeting space/facilities and much, much more! For more information, contact the I-99 Administrative Assistant at 237-0400.

## Municipal Planning: Better Together, Part II of II

By Michael Frank, Director of Community Planning, Heritage Conservancy, Doylestown

*Part I of this article, published in the July issue of Springs & Sinks, discussed the legal basis for joint municipal planning and zoning in Pennsylvania. Part II outlines two examples of how the process can work.*

Two groups of municipalities in Bucks County have had long-term experiences with joint municipal planning. One, in the Quakertown area, is a good example of a cooperative planning program. The other, in the Newtown area, includes joint municipal zoning as well as planning.

In 1971, the Quakertown Businessmen's Association initiated discussions on planning and zoning with the elected officials of Quakertown Borough and five surrounding communities. These included the boroughs of Richlandtown and Trubauersville and the townships of Haycock, Milford and Richland. Two major sewer systems were in the development stages to address failing on-lot septic problems throughout the area, and the existing zoning patterns were out of whack with the areas that were likely to be sewered. To make sense of the evolving sewer and zoning patterns and to have some consistency among the development standards, the officials of these six municipalities decided to try to plan and zone together.

In addition to the municipalities, the school district played an active role in the planning program. The superintendent and school board realized that the area was on the verge of a building boom and that their school system — the most expensive local tax-supported service by far — was directly affected by the type, intensity, location and timing of new development. The school district joined as a dues-paying, voting member of the joint planning organization.

The program was not without controversy. Two boroughs dropped out. However, a single comprehensive plan was adopted by the four remaining municipalities in 1977. A model zoning ordinance was prepared for adaptation and enactment by the individual

communities.

The plan and ordinances are based on a growth management concept under which the communities with sewers get the higher-density housing. They also get most of the commercial, office and industrial uses that produce the tax revenues to support the needed public services and improvements. The communities with lower-density uses do not compete for the tax dollars generated from nonresidential uses.

To date, this cooperative program continues. The comprehensive plan has been reviewed twice and revised and readopted in 1992. Jointly, these communities have prepared a subdivision and land development ordinance, a linked open space plan, a sewage facilities evaluation, and a traffic study of major highways. They

continue to meet on a monthly basis to discuss mutual concerns and to review major developments that would have more than local impact. The two boroughs that left the program have rejoined and adopted the 1992 comprehensive plan.

The second program, which involves a joint zoning ordinance, was born out of conflict. The group originally included Newtown Borough and the surrounding townships of Newtown, Upper Makefield and Wrightstown. Around 1975, one of the townships was looking for the least conspicuous place for a mobile home park zoning district in order to comply with mandates of the courts. It was proposed to locate the district along a local road on the boundary with an adjoining township. At this location, future residents of the potential mobile home park would travel into the neighboring community for shopping, schools and access to regional highways. The officials of that neighboring township, which would get all the traffic, were outraged. Heated letters were fired

back and forth on the local newspaper's editorial pages.

However, someone made the observation that the area of the four municipalities, more by chance than design, functioned as a unit and that it would be foolish if each had to provide zoning for industries, high-density housing, shopping centers, office parks and other intensive land uses. With the help of the Bucks County Planning Commission staff, it was determined that all reasonable land uses were provided for under the combined zoning ordinances and in more than sufficient quantity to satisfy a fair share matter based on county housing projections. Overall, there was a proper place for everything. The program began, not with a commitment to plan and zone together, but with a "joint planning study."

This was an exercise in compiling data and mapped information to identify common attributes and interests. It was an experiment to see if a basis for further cooperation existed.

While these communities were exploring the possibility of joint zoning, the MPC was amended to authorize joint municipal zoning. It took eight years to develop a comprehensive plan, a zoning ordinance and a "marriage agreement" to address procedural, administrative and cost-sharing matters. These were adopted in 1983.

This arrangement has not been without problems. It takes a long time to get ideas through four planning commissions, four elected bodies, several solicitors, a joint planning commission and a joint council of elected officials. Newtown Borough has withdrawn from the program.

The three townships continue to plan and zone together. The joint planning commission addresses broad-scale matters, and the local planning commissions deal with development applications and feed sug-

gested zoning amendments to the joint planning commission for consideration. When the joint zoning ordinance was initially adopted, the MPS required that there be a single joint zoning hearing board. This was never a popular situation and, when the MPC was changed in 1988 to permit individual zoning boards, the agreement was quickly revised to disband the joint board and establish individual zoning hearing boards. So far, two substantive challenges to the joint municipal zoning ordinance have been defeated successfully.

In 1984, the American Society of Landscape Architects recognized the Newtown Area planning program in its annual awards. The ASLA jury selected the Newtown Area Joint Municipal Comprehensive Plan and Zoning Ordinance for the society's merit award in planning and analysis. In 1998, Gov. Tom Ridge gave the Newtown Area municipal officials a Governor's Award for Environmental Excellence, recognizing the substantial public savings — particularly for road construction and maintenance — realized by guiding development into appropriate locations rather than spreading it out among municipalities.

While state and national recognition are rewarding, the most important benefits have been those realized by the residents in these two areas. The programs have helped these communities manage development better together than individually. Community character has been protected, and the countryside will remain open for a while longer.

Municipal planning and zoning are not easy responsibilities. There are numerous conflicting philosophies and competing interests, economic and otherwise. It's tough enough to resolve planning and zoning matters, with all the players, within a single municipality. Taking on these tasks with neighboring communities compounds the effort.

Cooperation is difficult. It's not without stress. It's not without compromise. It may not be possible everywhere. But where there is real interest in exploring the possible benefits, conflict can become cooperation, and stress becomes success. Communities, their residents and their businesses will be better off for the effort. 🏠

## New Treatment System Planned for Thornton Spring Superfund Site

By Randy Farmerie, PA Department of Environmental Protection

As part of ongoing environmental remediation efforts at Rutgers Organics, construction of a new groundwater pump and treatment system is scheduled to begin in September. The remediation project at this site, which is on the federal Superfund list, is overseen by both the Pennsylvania Department of Environmental Protection and the U.S. Environmental Protection Agency.

Although a groundwater treatment system is already operating at the facility, the new system is expected to provide significantly better capture and treatment of the groundwater beneath the site. Groundwater currently discharges to Spring Creek by way of Thornton Spring. As the groundwater flows beneath the site, a significant number of organic contaminants, including mirex and kepone, are absorbed. These contaminants are then discharged at Thornton Spring and enter Spring Creek. As a result of elevated levels of mirex and kepone in fish and sediments, the Pennsylvania Fish and Boat Commission in 1982 designated a section of Spring Creek as a "no kill zone." Fish caught in this section of the stream should not be consumed and must be released.

Treatment of contaminated groundwater generally consists of three stages: extraction, treatment and discharge. Contaminated groundwater is extracted from the ground using pumps installed in wells, piped to a treatment building to remove contaminants and then discharged. All three stages will be upgraded as part of the new treatment system.

The existing treatment system has been operating for a number of years. During this time, the understanding of the geology underneath the site has significantly improved. This knowledge will allow new wells to be sited in areas where they will be most effective in capturing contaminated groundwater. The new extraction wells will

complement existing wells in an effort to intercept all contaminated groundwater originating at the site. The removal of this contaminated groundwater should result in a reduction in flows and contaminant levels at the Thornton Spring discharge to Spring Creek.

The existing building will be expanded to contain a new, upgraded water treatment facility designed to minimize any chemical discharges to the environment. The discharge from this treatment system will be located at the same point as the current discharge, an open ditch that feeds directly into Spring Creek just downstream from Thornton Spring. This discharge will have to meet all appropriate NPDES requirements, including those for thermal impact. The new groundwater pump and treatment system is expected to be operational next spring.

Additional remediation projects planned for this fall at the site include removal of contaminated sediment from the ditch, improving the storm sewer system at the plant, fencing a portion of Thornton Spring and its discharge, and initiating long-term monitoring of the groundwater, fish and sediments in Spring Creek. 🏠

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## Students, Educators Report 'Connections' With Watershed

Kristen Saacke Blunk

Something wonderful took place at the Millbrook Marsh Nature Center in June. Students ranging from first to 12th grade gathered with members of the Watershed Community to share and learn from their experiences with "Connections." A watershed education project sponsored by the Spring Creek Watershed Community through an Environmental Protection Agency grant and the assistance of Graybee Lime. Connections was successfully piloted during the 1998-99 school year. Nearly 1600 students throughout four school districts and one private school participated. Connections, spearheaded and developed by retired Bellefonte teacher Genie Robine, is designed to encourage students at all age levels to enter a relationship with a local stream as a starting place for watershed education.

The June 3 gathering at Millbrook Marsh, billed as the first "Environmental Summit" of the participating students and their teachers, drew a small, enthusiastic crowd. Following an open house review of the students' projects, the group held a roundtable discussion that allowed students, teachers and participating public to share their gained knowledge and stories from the watershed experience.

Each teacher had wide latitude in designing how his or her class would experience the watershed, which creek or river system would be studied and what type of activities would take place. For all the participating teachers, it was clear that the primary benefit of the program was the availability of resources — both materials and money. "Money for obtaining substitute teachers [to cover other classes missed] so that we can take the kids in the field, money for buses to provide transportation and access to field monitoring equipment" were most often cited by the teachers as benefits.

The students, however, were concerned more with what they saw. Allen Wilkins, one of Linda Everhart's elementary students from Marion-Walker School in Walker



Township, was most interested in observing the crayfish, salamanders and tadpoles "in stages of becoming a frog." Linda's students focused their field activities on Little Fishing Creek. Allen's mom said she was grateful the kids got out of the school building and into the field, something they seldom have the opportunity or resources to do. She commented that having the outdoors experience helps the kids to have "respect for Mother Nature and learn that they have the ability to care for our environment."

Kaitlyn Felto, also a Marion-Walker student, outlined her experience at Bald Eagle State Park with Department of Conservation & Natural Resources environmental educator Suzann Rensel. There, the students participated in building a model of the Chesapeake Bay watershed in the sand beach, digging out rivers and building up the surrounding cities and countryside. Kaitlyn commented that they could see how the nitrates coming from land activities affect the quality of the Susquehanna River and, ultimately, the Chesapeake Bay. Kaitlyn's mother was also enthusiastic, saying, "When the kids get a hands-on

experience like this, they're going to remember — it means a lot more."

Sue Braun Kaufman's Bald Eagle High School students participated in field investigations that included looking at macroinvertebrate populations. Students Jason Kingler and Daniel Despot-Strong were most impressed by the diversity and numbers of macroinvertebrates they discovered, particularly ones the students previously didn't know existed. Sue's students focused their studies on Bald Eagle Creek, where they conducted water quality monitoring, looking at physical and chemical parameters. The students also canoed the West Branch of the Susquehanna, getting a from-the-water view of threats to the quality of water, including farm run-off. Both students felt the study helped them better understand how connected the waters are and "when one water area is affected, eventually they all can be affected."

For the Bellefonte Area School District, participating teachers Arlin Roth and Dee Stout both agreed that having money for buses was an enormous help. Arlin's high



school class spent time learning more about wastewater treatment within the Spring Creek watershed, visiting both the University Area Joint Authority and the Bellefonte Sewer Plant. He commented that many of his students were very interested in how the growing Centre Region is going to manage its water and that they see how the benefi-

ties. He was pleased by the experiences the students reported and noted that watershed education for youth was of particular importance to the Watershed Commission.

Dennis Hameister, Harris Township representative on the Watershed Commission, was excited to see the level of involvement in the rural schools. Dennis

the kids would ultimately have on protecting water quality because of their experiences in projects like Connections.

Roxanne Shiels, with daughter Meghan on hip, told the students her hope is that when her daughter is at Bald Eagle High School, projects like Connections will continue. Roxanne went on to thank and congratulate Genie Robine on the leadership and energy she provided the Connections project, from the planning stage through its success in the pilot year. All in attendance gave a hearty second in appreciation of Genie's hard work and vision in carrying out the project. ♣

cial reuse project ultimately will affect the quality of water coming downstream to Bellefonte. The field studies Arlin's class conducted took place primarily in Buffalo Run, Benner Township. The students were most impressed by the macroinvertebrates they observed.

Dee Stout designed the monitoring experience that 120 Bellefonte Middle School students experienced during their Fisherman's Paradise-based study of Spring Creek. Bellefonte Middle School took the holistic approach, integrating the sciences and social studies in their outdoor experience. In addition to four technical stations at which flow measurements, water quality tests and biological monitoring took place, the students wrote poetry inspired by their streamside experiences.

Members of the Watershed Community were given the opportunity to respond to the students' and teachers' presentation of their Connections experiences. Bob Donaldson, Director of the Centre County Planning Office, commented that in its formation, the Spring Creek Watershed Commission had identified stormwater management and watershed education as its two top priori-

ties. He was pleased by the experiences the students reported and noted that watershed education for youth was of particular importance to the Watershed Commission.

Barbara Fisher, a founding board member of the ClearWater Conservancy and landowner in the vicinity of Buffalo Run, said it's "so exciting to live next to a stream and hear it talk. It's a part of our lives, and this is a wonderful place to live." She invited the students to visit her farm. When asked if 120 kids could come, her response was a definitive YES!

Candace Dannaker, Mayor of Bellefonte, commented that "as a little girl, I didn't like creepy crawly things. But as a mom of two boys, I got hands-on experience and even became a champion turtle finder." In her charge to students, she said, "You will be the caretakers of these streams when we are in rocking chairs. Make sure that the water stays at an acceptable quality, and care for the critters!"

Laurel Garlicki, an educator with the Pennsylvania Fish and Boat Commission's Northcentral Region, was impressed by the dedication and enthusiasm of the teachers. She was adamant about the influence teachers have on the kids and the influence

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## Corrections on 'Corrections'

In the last issue of *Springs & Sinks*, two major partners were omitted from the "Environmental Corrections" article regarding passive wetlands treatment at the State Correctional Institution at Rockview.

The US Department of Agriculture Natural Resource Conservation Service (NRCS) was instrumental in designing the wetland system and will be monitoring construction of the system. Penn State's Agricultural and Biological Engineering Department has been heavily involved with assisting Rockview, the Department of Environmental Protection and NRCS in the design review and permitting of the system. Our apologies to these important partners! ♣

## County Mounts Record Effort to Save Farmland

Centre County officials expect to have \$800,000 to \$900,000 available this year to purchase development rights to productive farmland and thus keep it in agricultural production. The amount is 55 percent to 75 percent higher than the previous record of \$515,000 available in 1997.

The expected 1999 total includes \$800 in matching funds contributed to the County's Ag Land Preservation Program by the private, nonprofit Centre County Farmland Trust and the first-ever donation by a township in this area. Ferguson Township's contribution of \$16,616 became the second by a municipality in the state's PACE program for agricultural preservation. The county will use the Ferguson funds toward buying development rights to nearly 68 acres on the farm of Jim and Ann Harpster in Ferguson Township.

The brightened prospects for saving productive ag land from commercial and residential development and keeping it in agricultural use were reported to Farmland Trust Board members by Jon Eich of the Centre County Planning Office. He said the county expects to receive at least \$400,000 in additional state funds this year from the \$42 million recently added for farmland preservation in the fiscal-year 2,000 Pennsylvania state budget and up to \$100,000 in additional matching funds. These funds will be added to the county's initial appropriation of \$40,000 and the state's 1999 allocation of \$338,000.

Eich said he expects all of the funds to be committed this year, although settlement on the development rights purchased on farms won't be completed until 2000.

The Centre County Farmland Trust contribution of \$800, derived from membership dues, is divided into two phases. Trust president George Hildenbrandt presented an initial check for \$500 to the County Commissioners Aug. 10 and indicated an additional \$300 will be offered to encourage a further allocation from county funds.

For more information on the Trust and how to contribute to private efforts to preserve farmland for agricultural purposes, contact George Hildenbrandt at 237-0053 or

grh3@psu.edu. Individual memberships in the nonprofit Farmland Trust are \$25. Checks should be made payable to Centre County Farmland Trust, 328 S. Atherton St., State College, PA 16801. 🏡

## Watershed Community to Urge Dialogue Over Proposed Fire-Training Facility

At the request of a Benner Township landowner, the Coordinating Committee of the Spring Creek Watershed Community has agreed to facilitate the exchange of information about possible construction of a fire-training facility in the township. The landowner is concerned that run-off from the facility could pollute Spring Creek.

The Centre Region's previous fire-training site, built in 1971 on Penn State property off Big Hollow Road, closed in 1998. Thousands of tons of soil contaminated primarily with perchloroethylene have been removed from the site, said Walt Wise, Centre Region Council of Governments fire administrator. Although the soil cleanup is complete, COG and the University continue to discuss how the contamination occurred and who will pay the \$1 million cleanup costs for the site, which was also used to dispose of hazardous chemicals, Wise said. "No one is absolutely certain where this came from," he said. "There were just a lot of things that happened there."

In the meantime, Centre County firefighters need a new training facility. The primary site under consideration is on University Area Joint Authority property in Benner Township, between what will be the relocated U.S. 26 and the existing wastewater treatment plant. Several acres of woods lie between the site and Spring Creek, but runoff would travel downhill to the waterway, Wise said. "There's obviously a concern about Spring Creek," he said.

Henry Burman, who lives just across Spring Creek from the proposed fire-training site, is worried about possible pollution of the creek as well as increased traffic that the facility might bring to his neighborhood. "We're concerned about the runoff down into Spring Creek, which

would further pollute the creek," he said. According to Burman, several families in the neighborhood are prepared to lobby against location of the facility on UAJA land. They would like COG to consider other sites for the fire-training center, which would be used by all Centre County fire departments.

Wise said COG considered several Penn State-owned sites, including one near University Park airport, but building on them would be cost-prohibitive. Although COG is still "looking around" for other possible sites, the UAJA location is attractive because of its low cost, central location in the county and proximity to a future interchange off the relocated U.S. 26 (I-99). COG has hired an architect to conduct a feasibility study on the site and has met with Benner Township supervisors to find out how best to proceed on getting zoning permission, Wise said. Although the proposed site is in a "very restrictive zone designed to protect Spring Creek," he noted that a fire-training facility is an unusual use not really permitted under any standard zoning, so some type of zoning revision will be required wherever it is built.

COG wants to work with the Spring Creek Watershed Community and ClearWater Conservancy to ensure that the new facility will not harm Spring Creek, Wise said. Although the old site required environmental cleanup, he believes the new facility will be environmentally safe. "A lot of things happened in the '70s and '80s that were legal then but not now, like disposing of chemicals," he said. "The new site will be a lot different from the old site in terms of activities." For example, he said, no petroleum products will be used in creating the smoke and fire needed for training, only propane gas and lean wood products. "To the best of my knowledge, runoff from putting out a wood fire is not considered hazardous," he said. 🏡

## Hellos and Goodbyes

The Coordinating Committee of the Spring Creek Watershed Community would like to welcome Irene Biggans and Tim Ziegler! With Irene, it is really a "Welcome Back!" Irene played an integral part in the creation of the SCWC and its Coordinating Committee. As chair for the Materials Briefing Committee, Irene was one of many community organizers for the 1996 International Countryside Stewardship Exchange. Following the Exchange, the SCWC was created to carry out the recommendations of the international experts. The organizers of the 1996 event became what is now known as the Coordinating Committee.

Irene Biggans, formerly Irene Hall, seems to have reinvented herself since we last enjoyed her company. Recently married and living in Zion, Irene enjoys spending

time fishing and golfing with her husband. She has also become a licensed Realtor and is working for ERA Benchmark Realty. Some things, however, never change. Irene is still very committed to community issues and is eager to once again become involved with the activities of the SCWC.

Tim Ziegler comes to the Coordinating Committee from the Spring Creek Chapter of Trout Unlimited. Tim has been president of the chapter since March 1999 and a TU board member for 10 years. He is a native of State College but has been involved with TU chapters and watershed organizations in other areas of the country. An avid outdoorsman, Tim and his wife, Mara, with their two girls, Kiernyn and Brynna, enjoy spending time at and about their home in Pennsylvania Furnace in both the Spring Creek and Spruce Creek watersheds.

Unfortunately, some good things must come to an end. Andy Cole, our first

Coordinating Committee chair, has decided he needs to reduce some of his activities with the SCWC because of other time commitments. Andy has chosen to step off the Coordinating Committee, where he has served for three years. He will continue, however, to be an active part of the Water Resources Monitoring Committee and will help oversee ongoing activities surrounding the water quality and quantity monitoring. We wish to thank Andy for all he has done over the years: he helped to provide a firm foundation for SCWC. We will miss Andy in the wee hours of the morning every third Wednesday of the month!

Also, special thanks to Jessica Zehngut and Tami Campbell, our watershed interns, for a very productive and enjoyable summer. Both interns have very bright futures, and we wish them the best in their professional and scholastic endeavors! 🌱

## Report from the Coordinating Committee

By Jessica Zehngut, Watershed Intern

The latest monthly meetings of the Coordinating Committee of the Spring Creek Watershed Community took place June 16 and July 21.

During the June meeting, the committee decided to place more emphasis on recruiting new members as well as retaining current members of the Watershed Community and the Coordinating Committee. Greater depth and breadth are needed to sustain the organization and ensure that it truly reflects the broad interests of watershed citizens. Tom Kurtz, Darlene Weener and Irene Biggans are developing a presentation to be used as a recruiting and informational tool for clubs, groups, etc. that are looking for speakers.

Genie Robine presented a report on the Connections education project. This year, 1,661 students and more than 80 teachers participated in the project, and 117 volunteers helped with field trips. Eventually,

Connections may include all students in grades K-12 in Centre County. The project has secured a grant from the League of Women Voters which will greatly help with the budget for next year, but money is still needed.

During the July meeting, the University Area Joint Authority's Dave Smith, who chairs the Water Resources Monitoring Project, reported on its status. Presently, 12 monitoring sites are located on the main stem of Spring Creek and its tributaries. Samples taken monthly from each site are tested for nitrates, phosphates, metals and hydrocarbons, among others.

Henry Burman, a landowner in Benner Township, presented information concerning Centre Region Council of Government plans to build a fire training facility on UAJA property bordering Spring Creek. He requested support in preventing the plans from going through. The committee has decided that it will serve to facilitate the exchange of information between all interested parties, including the fire companies, COG, UAJA and concerned landowners. 🌱

## ABOUT THIS NEWSLETTER

**Springs&Sinks** is a bimonthly publication of the Spring Creek Watershed Community.

**Coordinator:** Roxanne Shiels

**Editor:** Tracey Dooms

**Layout:** Commercial Printing, Inc.

**Writers:** Peggy Marsh, Becky Ruskin

The major purpose of this newsletter is to inform the public about matters of interest to the Watershed Community.

Although the Spring Creek Watershed Community is a major project of the ClearWater Conservancy, views and positions expressed herein do not necessarily represent those of ClearWater, or any other stakeholder group in the watershed. Your contributions to our continuing dialogue are welcome. Send them to Editor, *Springs&Sinks*, 2555 N. Atherton St., State College, PA 16803, telephone 814-237-0400, Fax 814-237-4909, email clearh2o@vicon.net.

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Look inside for  
I-99 Visioning details —  
Kick-off meeting Oct. 21.

## *Springs & Sinks*—Newsletter of the Spring Creek Watershed Community

### C A L E N D A R O F E V E N T S

#### **Fridays, Noon-1PM**

*Brown Bag Lunch Series*, Millbrook Marsh Nature Center. Oct. 1: Jackie Melander, Centre County Historical Society. Contact: Centre Region Parks and Rec, 231-3071.

#### **Friday, Oct. 8, 6:30-9 PM**

*"For the Love of Chocolate"* fund-raiser for the ClearWater Conservancy. Outstanding confections and silent auction. Tusseyview Lodge at Tussey Mountain. Tickets \$20. Contact: Barbara Fisher, 353-1088.

#### **Saturday, Oct. 9**

"Fine Feathered Friends Food Fund" event at Millbrook Marsh Nature Center. Details TBA. Contact: Centre Region Parks and Rec, 231-3071.

#### **Wednesday, Oct. 20, 7-9 AM**

Coordinating Committee to the Spring Creek Watershed Community meets at the ClearWater Conservancy office, large conference room.

#### **Thursday, October 21, 7-9 PM**

Meeting of the Spring Creek Watershed Community  
"Living with I-99: Choosing Our Future"  
Central PA Institute of Science and Technology 540 N. Harrison Rd., Pleasant Gap

#### **Thursday, October 28, 7:30 PM**

Public meeting, Phase II of Spring Creek Corridor Study. Review of preliminary recommendations for tributaries of Spring Creek. Bush House, Bellefonte. Contact: Darlene Weener at ClearWater, 237-0400.

#### **Wednesday, Nov. 17, 7-9 AM**

Coordinating Committee to the Spring Creek Watershed Community meets at the ClearWater Conservancy office, large conference room.