

# THE CATALYST

## SLIPPERY ROCK WATERSHED COALITION MONTHLY ACTIVITIES UPDATE

**THIS MONTH'S MEETING:** Thursday 6/14/07 at 7 pm at Jennings Environmental Education Center, pizza and pop provided. 5/10/07 Meeting Attendance: B. Busler, I. Busler, M. Busler, S. Busler, C. Cooper, C. Denholm, M. Dunn, D. Johnson, V. Kefeli, Z. Reilly, S. Smith

### Slippery Rock Watershed Coalition

#### DeSale Phase I

#### 7 Years of Positive Impact!

Participants in the Slippery Rock Watershed Coalition completed routine inspection and maintenance of the De Sale Restoration Area – Phase 1 passive treatment system on April 17, 2007. Efforts included an inspection of the treatment system with field measurements of flow, pH and alkalinity. To help insure the long-term viability of the site, minor maintenance activities were conducted including: gravity flushing of both vertical flow ponds, “rodding out” of the collection system and forebay pipes, and backflushing of the northern vertical flow pond. All work was completed in about ½ a day (includes freeing a pickup truck stuck in the mud more than once!)

De Sale Phase 1 was the first passive treatment system in the Slippery Rock Creek headwaters to be installed on private property. Many thanks go out to the current landowner, **Tyrone Snyder** for his willingness to provide continued access to this amazing site!!!! This system was placed on-line in May of 2000 and has prevented 180 tons of acidity and 60 tons of metals from entering the stream. Located in the uppermost headwaters of Seaton Creek, a major tributary of Slippery Rock Creek, this site has helped to significantly improve ~2 miles of stream!



Tim Danehy of BioMost, Inc. backflushes one of the many underdrain “cells” in the northern vertical flow pond. Backflushing about every 2 years helps to maintain the flow through the vertical flow ponds.



A simple cleanout tool made of 1” PVC pipe is used to “rod out” the collection system. This maintenance is usually performed about once per year.

#### Typical Discharge Characteristics

Point	Flow (gpm)	pH (s.u.)	Acidity (mg/L CaCO <sub>3</sub> )	Alkalinity (mg/L CaCO <sub>3</sub> )	Iron (mg/L)	Manganese (mg/L)	Aluminum (mg/L)
Raw	40	4	320	0	88	53	16
Treated	40	7	<5	132	<1	38	<1

*Representative water monitoring information from samples collect by PA DEP and BioMost, Inc.; Metal values are dissolved. Typical average values rounded for clarity.*



Dr. Valentin Kefeli, SRWC participant, is pictured above addressing students in a class at Humbolt University in Berlin, Germany. Dr. Kefeli was the guest of Professor R. Ehwald. More about his lecture at Humbolt and visit to Germany coming up in next month's Catalyst!

### **Fabricated Soil Study Published**

Congratulations to some SRWC participants who were recently published in the **Journal of Sustainable Agriculture**! **Dr. Maria Kalevitch**, Associate Dean and Head of the Department of Science at Robert Morris University, **Valentin Kefeli**, soil scientist, **David Johnson**, Manager of Jennings Environmental Education Center, and **Will Taylor**, Program Coordinator of Jennings, worked together in a study and co-authored "Plant Biodiversity in the Fabricated Soil Experiment." Fabricated soil, which is a natural mixture of decaying substrates high in alumina-silicate, carbon, nitrogen, phosphorus, and potassium sources, is often used for landscape rehabilitation. It is a prime source for environmental remediation. The SRWC participants involved in this research studied the use and application of fabricated soil in areas degraded by abandoned mine drainage. Experiments are on-going to determine if fabricated soils are a long-term or short-term solution to the problem. The potential for fabricated soil use in this way is exciting!

"Plant Biodiversity in the Fabricated Soil Experiment" can be found in Volume 29 of the Journal of Sustainable Agriculture, Number 3 2006. It is published by Haworth Food & Agricultural Products Press and is also available online at <http://jsa.haworthpress.com>. The journal focuses on innovations for long-term and lasting maintenance and enhancement of agricultural resources, production, and environmental quality.

### **SRWC at Harrisville Community Days—July 4th**

Join the fun this July 4th at Harrisville Community Days, located at the Harrisville Park off Route 8 just a few miles east of Grove City! Participants of the **Slippery Rock Watershed Coalition** and **Jennings Environmental Education Center** will be at this enjoyable event and look forward to meeting and talking with community members! The SRWC and JEEC will have interesting and educational activities, demonstrations, and booths, including: fish-printing, tie-dying using AMD, live macroinvertebrates, an historic coal mining game with artifacts, AMD samples with test kits and experiments, samples of coal, limestone, sandstone, and more! Learn more about the Slippery Rock Creek Watershed Conservation Plan being completed by **Stream Restoration Inc.**

#### Brief Schedule:

12:00 pm Parade

2:00 pm Opening Ceremony

10:00 pm FIREWORKS!

This event has drawn 10,000 people in the past, and with the following events and activities planned, is sure to attract a large crowd again this Independence Day! Call Cliff Denholm for more details at (724) 776-0161.



# The KIDS Catalyst

## SLIPPERY ROCK WATERSHED COALITION FUN ACTIVITY



### Go Fish!

Fishing is fun! If you are under the age of 16, you can fish for free in Pennsylvania (a current Pennsylvania fishing license is required for anyone age 16 and over). The Pennsylvania Fish and Boat Commission has a great web site you can check out to learn more about fishing, including the basics if you are new to this fun activity! Visit their web site at [www.fish.state.pa.us](http://www.fish.state.pa.us). You can click on the "fish" button at the left of the web page to find a lot of good information. We hope you enjoy the fishing word search below! If you mail us your completed paper, we will send you a free gift certificate!

BAIT	FLY	MINNOWS	STREAM
BOAT	HAT	MOSQUITOES	TACKLE BOX
BOBBER	HOOK	NET	WADERS
CREEK	LAKE	POLE	WATER
DOCK	LURE	REEL	WORMS

L	A	M	W	E	E	O	A	R	M	V	I	P	H	R	V	F	E	M	U	N	W
B	P	J	E	C	A	H	M	U	B	D	C	J	P	L	M	O	N	R	B	U	C
T	P	L	N	I	V	A	E	E	N	O	C	L	A	K	E	W	Z	C	K	I	R
A	O	N	B	Y	F	T	M	O	S	B	M	Q	U	O	T	O	S	W	H	O	E
H	O	M	N	T	A	C	K	L	E	B	O	X	N	N	B	O	A	S	T	R	E
Y	M	N	A	O	B	B	O	Y	E	V	W	S	X	N	I	D	P	L	O	M	K
M	R	C	B	N	O	B	T	G	I	V	R	D	V	I	E	X	K	P	C	O	H
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A	M	B	E	R	I	C	N	F	O	U	H	J	U	L	R	M	A	E	Y	O	A
I	B	L	L	G	B	O	B	B	E	R	E	V	W	S	S	E	T	R	K	C	E

Name \_\_\_\_\_ Age \_\_\_\_\_ Address \_\_\_\_\_



Slippery Rock Watershed Coalition c/o Stream Restoration Incorporated  
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## **Exploring Geospatial Diversity at the PA GIS Conference**

The 15th Annual PA GIS Conference was held May 16 and 17 at the Radisson Penn Harris Hotel and Conference Center in Camp Hill, PA. **Shaun Busler**, of Stream Restoration Inc. and an SRWC participant, attended the conference and learned a lot about the diverse use and application of GIS technology. Shaun enjoyed the opportunities to network and meet other GIS Professionals. Features of the conference included exhibitor showcases, networking, sessions for GIS technology briefings, applications, software training, LiDAR technology, Geospatial legislation updates, and more.

Exciting developments are happening with PA MAP, a new electronic map of Pennsylvania, and will be greatly beneficial to the SRWC. These developments include high-resolution, color aerial photography of the watershed and elevation data. Keep an eye out in future Catalysts for examples of this great data!

The conference's keynote speaker, **Dr. Harvey Thorleifson**, Director of the Minnesota Geological Survey, enthusiastically addressed attendees on the topic of 3D visualization trends in geological mapping. He discussed several important needs for maps, including health (toxic substances, waste disposal, water), heritage (natural and cultural), wealth (energy, minerals, construction), and security (hazards). Dr. Thorleifson also made mention of the use of GIS in the areas of meteorology and ground water, and shared his "wish list" for geological mapping.

## **A Thank You to Dr. Smith**

Thank you **Dr. G. Warren Smith**, former President of **Slippery Rock University**, for sending the SRWC a collection of papers and correspondence regarding proposed mining activity in Wisconsin. The information was developed by Dr. Smith's good friend, **Clement Zidick** of Wabeno, Wisconsin, who taught chemistry in Alaska. Mr. Zidick's research resulted from some questions about a proposed copper and zinc mine's chemical safety and waste disposal. The information will undoubtedly prove interesting and useful to those of us in the chemical, mining, and environmental science fields.