

THE CATALYST

SLIPPERY ROCK WATERSHED COALITION MONTHLY ACTIVITIES UPDATE

THIS MONTH'S MEETING: Thursday 1/11/07 at 7 pm at Jennings Environmental Education Center, pizza and pop provided. 12/14/06 Meeting Attendance: J. Belgraden, C. Cooper, C. Denholm, M. Dunn, S. Garrison, D. Johnson, V. Kefeli, B. Lubold, S. Smith, W. Taylor, S. VanDerWal

Westminster Students Present Research Findings at SRWC Meeting

The November meeting of the Slippery Rock Watershed Coalition was a special one, featuring the presentations of 19 students from **Westminster College!** The students, chemistry and biochemistry majors, had been researching abandoned mine drainage at the **De-Sale** and **Erico Bridge** treatment sites as part of a unique service-learning project. Guided by assistant professor **Dr. Helen Boylan**, the students took advantage of a partnership with the SRWC to delve into some hands-on science. By analyzing the chemistry of water samples taken at the treatment sites, students were able to take knowledge learned in the classroom setting and apply it to the environment in the real world. Students saw this "chemistry in action" over a 3 week period, during which time they analyzed DeSale and Erico Bridge water samples both in the field and in the laboratory. Located in Venango Township, Butler County, the passive treatment complex at Erico Bridge has been removing essentially 100% of the acidity, 97% of the iron, and 81% of the manganese from about 500 gpm of AMD.

Students who presented research findings included: **Mitch Taylor, Joe Elliot, Cory Criss, Mallory Bugel, Andy Olphin, Ryan Schubenski, Durann VanGorder, Jenny Steele, Mike Gorka, Mallory Strickland, Amy Thomas, Callie Croushore, Devin Smith, Ian Yarger, Bret Myers, Kelly Conley, Ryan Schafer, and Dave Davis.** Thank you so much, students, for your interest in passive treatment technology, and for all of your hard work and time dedicated to the water analysis! According to SRWC participant **Margaret Dunn**, SRWC members were "energized by the Westminster College student presentations" and said the students' work "encouraged participants in the Slippery Rock Watershed Coalition to improve the function of the passive systems treating abandoned mine drainage." There is great promise this could become an on-going project for Westminster students and the SRWC!

The advanced laboratory chemistry class in which the presenting students are enrolled is a part of Westminster College's service-learning projects. Funded by the **Drinko Center for Excellence in Teaching and Learning**, its goal is to enrich undergraduate education using a multitude of varied methods. Collaborations addressing community and regional needs, including strengthening prek-12 education, are a major component of its work. Undergraduate research with faculty and incorporating academically meaningful community service into the curricula are often employed to fulfill the mission of the program. Research and travel grants and internships are afforded participating students. For more information on the programs, contact **Dr. Boylan** at **724-946-6293** or email **boylanhm@westminster.edu**. There is also an article online at the Westminster College news web site <http://www.westminster.edu/news/releases/release.cfm?id=1867>





Westminister College students sampling at the Erico Bridge Passive Treatment System.

“Guest Professors” for a Day

Don Hopey is the Environmental writer for the Pittsburgh Post-Gazette. He is also a member of the SEJ, Society of Environmental Journalists, whose mission is to advance public understanding of environmental issues by improving the quality, accuracy, and visibility of environmental reporting. **SRWC** participants **Cliff Denholm** and **Tom Grote** had the opportunity to share their experience and knowledge in the areas of abandoned mine drainage (AMD) and passive treatment technology as guest speakers in Don Hopey’s issues class at the University of Pittsburgh on November 9, 2006.



Don Hopey



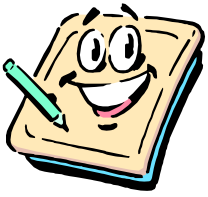
Cliff Denholm addresses the students

A PowerPoint presentation focused on the formation of AMD, field recognition (by coloration), and methods of treating the discharges. An in-depth look at the chemistry of AMD was presented by Cliff. He also discussed the past and present techniques of surface mining (strip mining) and underground mining (deep mining) and the effects of these mining techniques on AMD.

The presentation/discussion then moved into the area of passive treatment systems. The components discussed included: oxic and anoxic collection systems, open limestone channels, anoxic limestone channels, vertical flow ponds, hybrid flow ponds, horizontal flow limestone beds, diversion wells, settling ponds and forebays, and constructed wetlands. Illustrations showed how these components could be used as a stand alone treatment system or used in various combined configurations based on the chemistry of the AMD discharge.

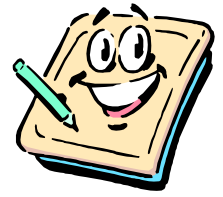
The presentation ended with a discussion of how partnering with local groups, organizations, businesses, private citizens and local, state and federal government provides the necessary impetus to “get it done” and at the same time improve the quality of life for all.

Should your group, organization, school or university want a similar presentation, please contact the SRWC at 724-776-0161.



The KIDS Catalyst

SLIPPERY ROCK WATERSHED COALITION FUN ACTIVITY



Winter Word Search

20 fun winter words are hidden in the word search below! Try to find them all and circle them. If you mail us your completed paper, we will send you a free gift certificate!

F	R	A	C	B	E	Q	B	T	J	Y	M	O	A	Z	V	E	F	N	U	K	L
I	L	W	S	O	B	E	F	H	O	T	C	H	O	C	O	L	A	T	E	I	C
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| snow | snowball | winter | frost | ski |
| sled | scarf | cold | shovel | fireplace |
| ice | mittens | blizzard | blanket | hibernate |
| icicle | snowman | ice skate | hot chocolate | coat |

Name _____ Age _____

Address _____



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Consultant of the Year Award Goes To...

...**BioMost, Inc.!!!** The **Washington County Conservation District** recognized six individuals, organizations and a retiring director during their annual conservation awards luncheon held last month. In the category of **Conservation Consulting Firm, BioMost, Inc.** was recognized for their contributions to the Washington County Conservation District's study and report on the Raccoon Creek Restoration Project. The BioMost team, comprised of **Margaret Dunn, Tim Danehy, Shaun Busler, Cliff Denholm, Kyle Durrett, and Bruce Leavitt** looked outside the box for a creative plan in their study of abandoned mine discharges from Erie Mine and Plum Run. Using a grant funded by Growing Greener, the BioMost team was planning to examine the discharges to make recommendations for treatment based on discharge size, flow, water chemistry, and amount of available space, among other criteria. They ended up going well beyond this standard scope of work to study the different mine pools and their interconnection.

As the culmination of their work, the BioMost group proposed a new reclamation plan called "ELF", short for Erie, Langeloth, and Francis, which are the 3 underground mines the group hopes to interconnect. The "ELF" system would collect 5 major mine pools in the Burgettstown area and treat 2,000 gpm of contaminated mine water. This mine water would then be returned to Raccoon Creek minus most of the contaminants, thus cleaning up all major discharges to the Burgetts fork of the creek. BioMost and Stream Restoration Inc. are now working with the Washington County Conservation District to seek grants to implement the exciting findings in this one-of-a-kind study! For additional information on the Washington County Conservation District, contact **Gary Stokum or Susie Carmichaels** at 724-228-6774 or email wccd@pulsenet.com.

The BioMost team would like to extend its sincere thanks to **John Davidson**, retired DEP mine inspector, and the folks at the Washington County Conservation District for the opportunity to do the site investigation which led to the "ELF" proposal. BioMost looks forward to working with the WCCD to move forward with the implementation of this new idea! The Raccoon Creek Watershed is home to 32,000 people in fifteen municipalities in Beaver, Washington and Allegheny Counties. Its secluded valleys and woodlands are havens for sportsmen and outdoor enthusiasts, and much of the watershed is designated an Important Birding Area by the Audubon Society of Western Pennsylvania. BioMost is excited to join with the WCCD to protect and enhance this important habitat! To learn more about this event, go to www.paenvironmentdigest.com