

THE CATALYST

SLIPPERY ROCK WATERSHED COALITION MONTHLY ACTIVITIES UPDATE

THIS MONTH'S MEETING: Thursday 11/8/07 at 7 pm at Jennings Environmental Education Center, pizza and pop provided. 10/11/07 meeting attendance: S. Busler, C. Cooper, C. Denholm, M. Dunn, D. Johnson, V. Kefeli

Presentations by Westminster College students at 11/8/07 SRWC meeting!!! See article.

Manganese Recovery at De Sale Phase 2



Manganese material from the De Sale 2 passive system (installed in 2000) has recently been successfully recovered by Stream Restoration Incorporated and BioMost, Inc. The demonstration project combines Operation and Maintenance with metal recovery and is being funded by the **Pennsylvania Department of Environmental Protection's Bureau of Abandoned Mine Reclamation**.

The passive treatment component of interest is what BioMost, Inc. calls a Horizontal Flow Limestone Bed or HFLB for short. The HFLB, the final component of the passive system, is used to provide an alkalinity "boost" to the effluent prior to entering the headwaters of Seaton Creek as well as to remove manganese dissolved in the abandoned mine drainage. Over time, the manganese material has accumulated in the bed.



One of the potential issues identified in removing the manganese was that the material tended to cling to the stone. An excavator attachment called a FlipScreen, however, was utilized in conjunction with a wash pit to effectively clean the stone and contain the material. The manganese material was then able to be placed into large totes to dewater prior to hauling from the site.

Following processing, the stone looked almost brand new and was placed back into the HFLB. Look for future articles as we examine the quality of the manganese material as well as potential uses. One use, which we will continue to explore, is ceramic glazes for pottery. **Special, special thanks to the Terwilliger family!!!**

Accepting the Challenge Available

The Slippery Rock Watershed Coalition is pleased to announce that the 3rd printing of 2000 copies of the publication **Accepting the Challenge** has been completed. The popularity and interest in this primer on mine drainage and passive treatment systems has astounded the SRWC. We are thrilled that the book has been able to provide a valuable resource to so many people. The third printing has been made possible by an environmental education grant through the **Pennsylvania Department of Conservation and Natural Resources, Bureau of State Parks**.



Playing in the Mud
Shaun Busler, Tim Danehy, and Cliff Denholm pumping the manganese material cleaned from the limestone to a dewatering bag. (See article on page 1.)

Westminster College Students Monitor Passive Treatment Systems

Westminster College students from **Dr. Helen Boylan's** Advanced Laboratory class have participated again this year in a collaborative effort with the Slippery Rock Watershed Coalition to monitor three passive treatment systems. The project provides the students with a practical hands-on experience to complement their classroom and laboratory instruction while gaining a better understanding of an important environmental issue such as abandoned mine drainage and environmentally-friendly methods of addressing the problem. The students worked in groups with **Wil Taylor** of the **Jennings Environmental Education Center** and **Cliff Denholm** of **Stream Restoration Incorporated** to conduct water quality monitoring of the De Sale Phase 1, De Sale Phase 2, and Erico Bridge Passive Treatment Systems. The students will be presenting the results of their study at the **November 8, 2007 Slippery Rock Watershed Coalition meeting at 7PM at the Jennings Environmental Education Center. Please mark your calendars to support this worthwhile student contribution to our efforts!!!!** As always, pizza and pop will be provided at the meeting.





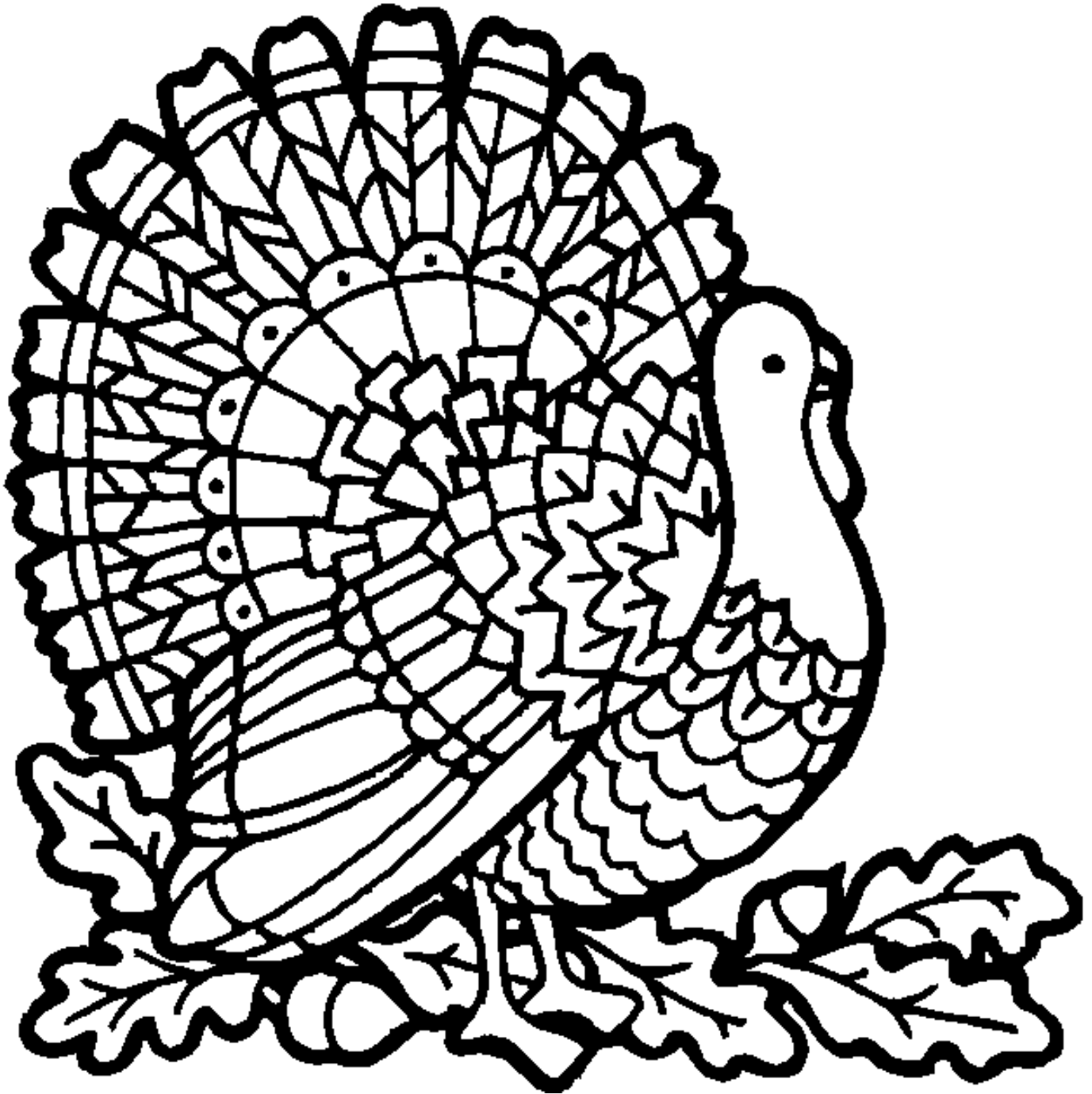
The KIDS Catalyst

SLIPPERY ROCK WATERSHED COALITION FUN ACTIVITY



Totally Turkey!

Gobble, gobble, gobble! Here is your turkey trivia, in time for Thanksgiving! Did you know... only male turkeys (called toms) make the "gobble" sound? Females (hens) make a clicking sound. Mature turkeys have about 3,500 feathers. The heaviest turkey ever raised weighed 86 pounds! Benjamin Franklin thought the turkey was so American it should have been chosen as our national symbol rather than the eagle. We hope you have fun coloring the turkey below, and if you mail us your colored picture we'll send you a free gift certificate! Happy Thanksgiving!



Name _____ Age _____

Address _____



Slippery Rock Watershed Coalition c/o Stream Restoration Incorporated
A PA Non-Profit Organization
3016 Unionville Road
Cranberry Twp., PA 16066

NONPROFIT
ORGANIZATION
U.S. POSTAGE
PAID
PERMIT NO. 434
CRANBERRY, PA

Thanks to The William & Frances Aloe Charitable Foundation, Environmentally Innovative Solutions, LLC, Dominion Peoples, Amerikohl Mining, Inc., Quality Aggregates Inc., Drs. Ron & Kathy Falk Family, BioMost, Inc., Allegheny Mineral Corporation and PA DEP for their support. For more information contact: Slippery Rock Watershed Coalition, c/o Stream Restoration Incorporated (PA non-profit), 3016 Unionville Road, Cranberry Twp., PA 16066, (724)776-0161, fax (724)776-0166, sri@streamrestorationinc.org, www.srwc.org. Nov. distribution: 1345

SRWC goes Stir-Crazy at Jennings

In August of 2007, **Bob Beran of Beran Environmental** “stirred” the treatment media of the Vertical Flow Pond at the **Jennings Environmental Education Center** located in Butler County, PA. This was the second time in the 10 years of operation that the media was stirred due to a decrease in permeability, but not treatment. In fact, the VFP has consistently produced net alkaline water over the entire decade of operation. (General raw water quality characteristics: 3 pH, 280 mg/l acidity, 50 mg/l iron, 20 mg/l aluminum)

The treatment media consists of a mixture of compost and very small #9 limestone chips. The VFP was previously stirred in 2004.

In order to stir the media, the VFP was drained. The flow was diverted around the system and treated using an **Aquafix** system provided to the SRWC by the **US Department of Energy**. Prior to the stirring, a trench was dug lengthwise in order to examine the treatment media. Various distinguishable layers could be viewed including pockets (lenses) of limestone aggregate and decomposed compost material. Photos were taken and samples of the various layers were collected for analysis. Keep your eyes open for updates on the system in future issues of the Catalyst.

