THE CATALYST

SLIPPERY ROCK WATERSHED COALITION MONTHLY ACTIVITIES UPDATE

THIS MONTH'S MEETING: Thursday 1/12 at 7 pm at Jennings Environmental Education Center, pizza and pop provided. 12/8/05 Meeting Attendance: J. Belgraden, C. Cooper, T. Danehy, J. Delu, C. Denholm, M. Dunn, D. Johnson, V. Kefeli, D. Sloan, W. Taylor

GIS Day in Harrisburg

SRWC participant **Shaun Busler** traveled to Harrisburg on November 16 to take part in the festivities of the **7th Annual GIS Day**. GIS Day is a large global event! There were hundreds of successful events held in 72 countries around the world! GIS Day is a grassroots event that formalizes the practice of geographic information systems (GIS) users and vendors of opening their doors to schools, businesses, and the general public to showcase real-world applications of this important technology. The event is principally sponsored by the **National Geographic Society, the Association of American Geographers, University Consortium for Geographic Information Science, the United States Geological Survey, The Library of Congress, Sun Microsystems, Hewlett–Packard, and ESRI.**

There are currently more than 2 million GIS users in the world, but most of the public is unaware of this technology and how it affects their lives. Shaun enjoyed spending the day in the Capital Rotunda building, viewing displays and discussing GIS with other conference participants as he learned more about the many applications of GIS. Special thanks to **Maurie Kelly** and **PASDA,** Pennsylvania's official geospatial information clearinghouse, for inviting Shaun! He was able to share his use of GIS as a tool for managing passive treatment systems. Another highlight of Shaun's day was running into his local representative from Butler County, **Brian Ellis**, and sharing with him some information about the SRWC.

SRWC's Soil Scientist on the Air with Jane Nugent

Dr. Valentin Kefeli, a soil scientist and SRWC participant, recently had the special opportunity to give a personal tour of **Jennings Environmental Education Center (JEEC)** to **Jane Nugent**, host of **"Garden Talk."** "Garden Party" is a weekly radio program which airs on **WPTT AM** NewsTalk 1360 on Saturdays from 12:30-2:00 PM. Valentin's walking tour of Jennings included visits to the passive treatment systems working to abate the degrading effects of acid mine drainage (AMD) and a look at Valentin's own personal research experiments on fabricated soil.

Jane Nugent, host of WPTT "Garden Talk" (picture taken at Ohio River Watershed Celebration)

The tour was a prelude to Valentin's appearance on Jane's radio program! Jane had contacted Valentine to request his appearance on her show, and Valentin had the unique opportunity to appear live with Jane during the December 10, 2005 broadcast of "Garden Talk." Jane and Valentine discussed their tour at JEEC and the development of fabricated soil by blending waste materials. Fabricated soil is being tested for use in reclaiming abandoned mine sites, where topsoil is often unavailable. Valentin, who holds a PhD in Biology from Moscow University, also discussed the use of plants in water purification and the value of natural processes for sustainable development.

"Garden Talk" focuses on topics related to nature and the outdoors, especially listeners' own backyards. Host Jane Nugent is known for her green thumb, and listeners often call her with questions regarding plants and gardens. It has been an honor to get to know Jane during the last three years, as she has become involved in some of the events of the SRWC such as the annual Ohio River Watershed Celebration. It has been fun for SRWC participants to appear on her show, to provide educational discussion to listeners who may not know much about watershed pollution issues like AMD. It is always rewarding to share successes with the public regarding passive treatment technology. Thank you WPTT and Jane Nugent!!!

PHOTO OF THE MONTH

Jane Nugent and Valentin Kefeli pose for a photo during a tour of the research projects at Jennings Environmental Education Center (see previous page for article).

PHOTO OF THE MONTH

Butler County Mini Grant Program: "Thank You, Thank You!!!"

It has been said a picture is worth 1000 words. The SRWC wishes to express sincere thanks to the **Butler County Mini Grant Program**, through which it received funding for operation and maintenance of some passive treatment components at **De Sale I** in Venango Township, Butler County. Accompanying captions of the photos below detail how funding from the Mini Grant enabled maintenance and upgrades.

Left: The existing outlet pipes prior to removal.
Center: Freezing temperatures resulted in broken pipes (highlighted by arrows).
Right: The improved outlet piping system; these "peri-pipe" outlet risers are easy to maintain and adjust while helping to prevent broken pipes caused by freezing temperatures.

Left: The two vertical flow ponds are designed to function in parallel. However, due to iron minerals forming at low pH, the flow distribution system frequently plugged, causing unbalanced overland flow.
Center: Flow splitter box coated with iron precipitates.
Right: A forebay was installed to help significantly reduce maintenance requirements in addition to providing further treatment using advances in passive treatment technology.

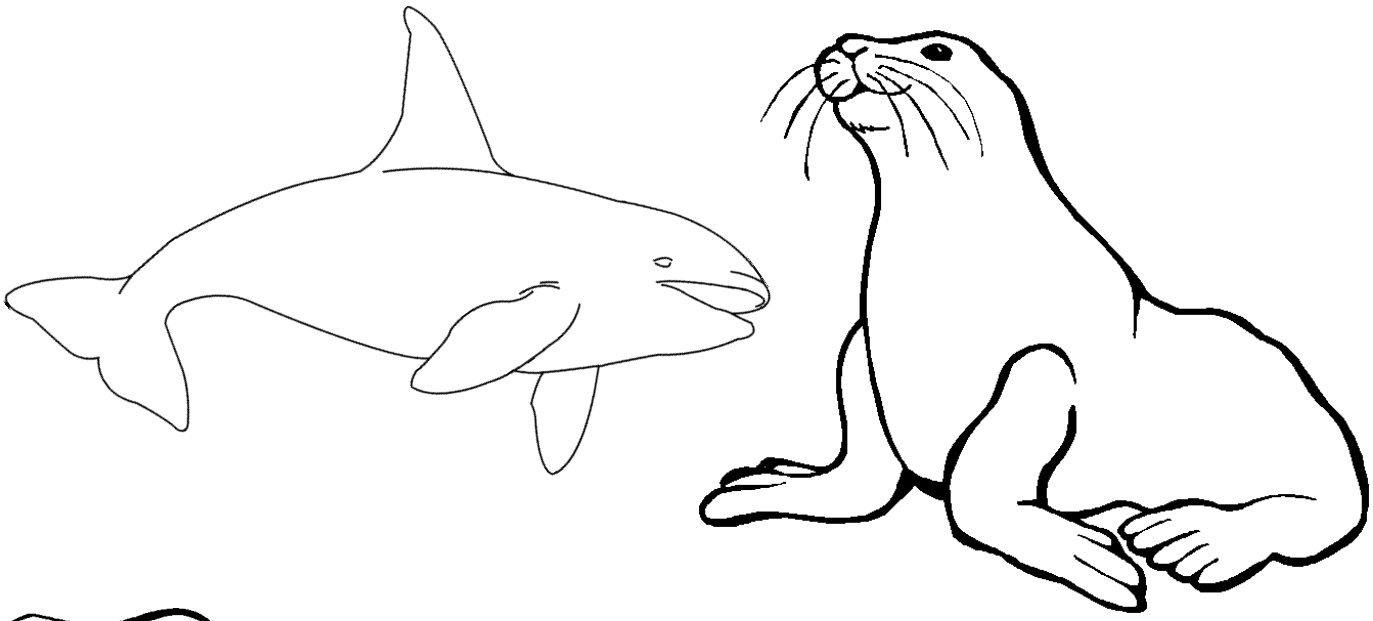
Special thanks to Joe Puryear and Joe Puryear Excavating, and to Bob Beran and Beran Environmental Services, Inc. for their assistance in completing these project improvements!!!

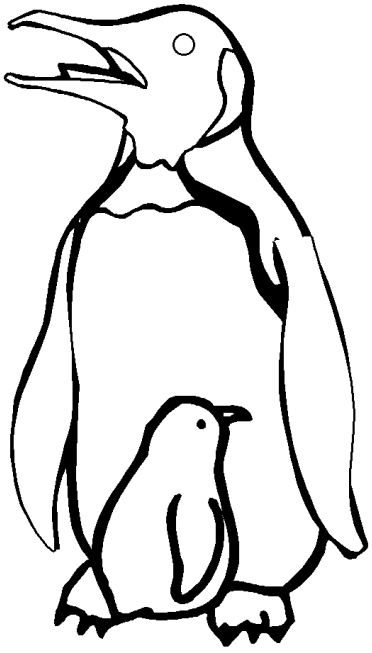
The KIDS Catalyst

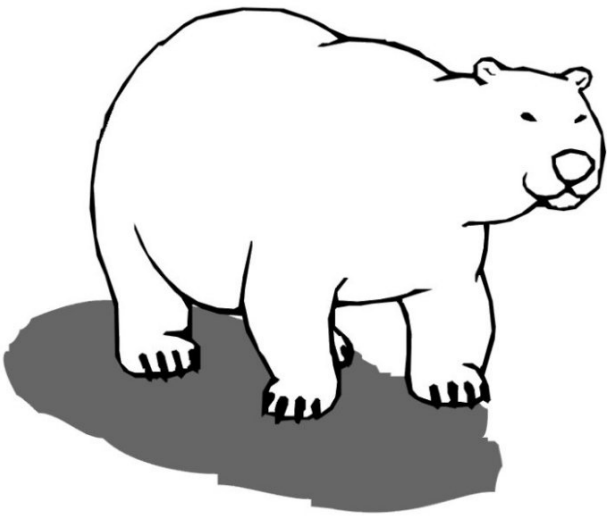
SLIPPERY ROCK WATERSHED COALITION FUN ACTIVITY

Cold Critters Coloring

While some animals hibernate or migrate to warmer areas during the cold winter months, there are some animals who **love** the cold! There are special things about these animals' bodies that allow them to live in the coldest places in the world. **Whales** have a thick layer of fat, called blubber, under their skin that keeps them warm. Harbour **seals** also have a thick layer of blubber to keep them warm, and they also have a very high metabolic rate to generate body heat. There are 17 types of **penguins** in the world. Penguins have a layer of blubber, and on top of their blubber are a layer of fluffy feathers called "down". On top of the down is another layer of thick feathers to keep the warmth in. Sometimes when it is really cold, penguins huddle together in groups of up to 5,000 to keep warm. They take turns moving to the inside of the group where it is warmer. **Polar bears** have a thick fur coat that looks white, but is really translucent. Each hair is a hollow tube that channels the warmth of the sun straight to the skin to help keep it warm. Polar bears also have a thick layer of fat. They dig out dens on snowy slopes to take shelter during blizzards, curling up to let snow drift around their bodies to form an insulating layer. Color the creatures below who love the cold, and if you send us your paper we'll mail you a free gift certificate!







Name _____

Address _____

Age ____

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

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. Jan. distribution: 1276

Highlighting **O**ther **P**artnership **E**fforts (HOPE!)

We're **Happy About** ***Weir*** **Construction**

There's nothing weird about weirs! A weir is a wall or plate placed in an open channel, like a low dam built across a stream, used to raise, divert, or measure the flow of water. In passive treatment systems, these devices are typically used to measure the flow of water in a stream. On October 14 and November 4, the **Aultman Watershed Association for Restoring the Environment (AWARE)** worked as hard as a beaver on the installation of three weirs in the Reeds Run Watershed in Indiana County. **Stream Restoration Inc. (SRI)** and **John Foreman** of the **US Environmental Research Service** are working with AWARE to develop recommendations to eliminate and/or treat a discharge believed to be from a coal mining refuse pile. At the present time, a large seep zone drastically impacts Reeds Run during low flow conditions. The discharge at Reeds Run, seeping in approximately a 200-foot stretch of the stream, is entering the stream in multiple locations. This diffuse area poses many challenges.

With funding provided in 2004 via a **Growing Greener** grant, watershed manager **Malcolm Crittenden** of the **PA DEP** is working with AWARE and their partners on this project site. On October 14, **Shaun Busler** and **John Foreman**, a geologist, worked with **Brian Okey**, a professor at **Indiana University of Pennsylvania**, and several of his students to install 2 weirs. **Carl Trout and Harry Charles** from AWARE were also present to lend a helping hand. On November 4, Shaun and John worked with **Tom Clark**, a watershed specialist with the **Indiana and Armstrong County Conservation Districts**, to install 1 additional weir. The weirs, rectangular in shape and made of wood, measure 14 feet long with a 12-foot wide notch. Thank you, John, for your expertise in installing weirs!

Kyle Durrett, an intern with SRI, identified and prepared a site for the weir. However, when volunteers arrived at Kyle's site to install the weir three days later, beavers had raised the water level by over a foot! With such persistent beavers building downstream dams, the weir location changed slightly but will still be an effective and important part of the site investigation. With the installation of these three weirs, volunteers will be able to monitor the flow of water and gather useful information which will help in determining the best treatment option. AWARE will be monitoring the stream during the next year, including water sampling and testing of chemical parameters.