

SWEP Capital Chapter Quarterly Newsletter



Oil and Gas Rush in PA September's Lunch & Learn

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The U.S. Geological Survey's Water Science Center in New Cumberland, PA hosted September's Lunch & Learn event. The topic for the affair, Oil and Gas Rush in PA, highlighted the Marcellus Shale gas fields in Pennsylvania. For those who may not know, the Marcellus Shale, also referred to as the Marcellus Formation, is a Middle Devonian-age black, low density, carbonaceous (organic rich) shale that occurs in the subsurface beneath much of Ohio, West Virginia, Pennsylvania and New York.

erable gas in the eastern United States has a great economic significance. This will be some of the closest natural gas to the high population areas of New Jersey, New York and New England.

opportunities for residents of numerous counties in Pennsylvania.

However, there is a notable side effect to the drilling process. Water is a major component in the drilling process. One well may use up to 3 million gallons of water for drilling and fracturing the shale to release the gas. This water then needs to be cleaned and disposed of after it is used in the drilling process. Therefore, the potential economic gains should not occur at the expense of the state's natural resources.



Events at a Glance

- October 2008- Mentoring event
- November 2008
- December 2008— Holiday Social

The latest buzz in the state revolves around the revised estimates of natural gas potential residing in this formation. It is believed to contain upwards to 500 trillion cubic feet of natural gas, 10% of which is recoverable using current technologies. The mere presence of an enormous volume of potentially recov-

The transportation advantage alone will give Marcellus gas a distinct advantage in the marketplace. In addition to lower energy prices and reduced pollution through increased supply of cleaner-burning fuel, the natural gas resources could lead to millions of dollars in new investments and job

Several state agencies are taking an active role in overseeing the exploration of gas across the state. Representatives from these agencies presented an overview of the gas exploration from their perspective to all members and guests in attendance.

(cont page 2)

Oil and Gas Rush (con't from page 1)

The first speaker, Nathan Bennett, from the Department of Conservation of Natural Resources (Forestry) explained the geology surrounding the black shale and the technology available to extract the gas from this formation. Next, Ron Gilius with the Department of Environmental Protection (Oil and Gas) talked about the Department's permitting processes and what information must be provided in order for gas operators to extract the resources from the Marcellus

shale formation. Lastly, Susan Weaver, also with DEP (Water Use Planning), wrapped up the session by discussing concerns surrounding the withdrawal of excessive amounts of water from the state's streams and its recovery and treatment after the drilling process.

On behalf of SWEPP Capitol Chapter, many thanks to all the speakers for their participation and exceptionally informative presentations!

* * * * *

For additional information regarding the Marcellus Shale, DEP has created a special webpage that features resources for industry and information on drilling questions for landowners and the general public, which is available at www.depweb.state.pa.us, keyword: Oil and Gas, then click on "Marcellus Page."

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Member's Corner: Spotlight on ?

If you would like to see the Member's Corner continue, we need articles from you.

It only requires 4 members a year to submit an article. The topic can be anything you want it to be. . .there are absolutely no guidelines to follow.

Please take a moment to share a part of you with your fellow members.

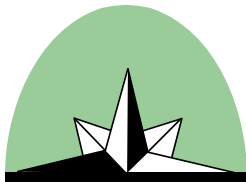
Thank you!

The SWEPP Capital Chapter would like to make "Member's Corner" a reoccurring feature in our newsletter. Please consider submitting a short piece about something that has impacted the path of your personal or professional life.

Save the date:

March 5, 2009

For the 4th annual "Making Environmental Connections" conference



Welcome to Member's Corner - A venue to introduce and share information about your fellow SWEPP members!

Member's Corner

Thinking inside the box : The Small Watershed Approach to Biogeochemical Research



Picture by: Naomi Sheaffer

The small watershed is a fundamental landscape unit that simplifies investigations of hydrology and biogeochemistry because the small scale allows processes to be isolated. We will cover the basics of the small watershed approach and look at some classic examples of its application. I then focus on two solutes, sulfate and mercury. Sulfate enters watersheds in acid rain, and we use an isotopic approach to track how it moves through the landscape. Mercury also enters from the atmosphere, and we investigate the amount and timing of mercury delivery to downstream water bodies where it enters the food web and poses a risk to humans. The small watershed approach elucidates the fate of these atmospherically deposited pollutants and allows predictions of the effects of emission controls.

A Public Seminar
Wednesday, October 29, at 10:30 a.m.
Featuring:

Dr. Jamie Shanley

U.S. Geological Survey
National Research Program Lecture Series
Montpelier, VT

Location:
U.S. Geological Survey
215 Limekiln Road
New Cumberland, Pennsylvania

SWEP Trivia
Question:

What is the latest buzz in PA all about?

Sustainable Water Infrastructure Task Force

By Joanne Nardone, Operations, Monitoring and Training

A number of state and federal funding programs have provided financial assistance towards the construction and upgrade of the Commonwealth's water infrastructure. Between 2003 and 2006, these financing programs provided approximately \$1.4 billion in loans and grants for this purpose. However, the 2003 EPA Drinking Water Needs Survey and the 2004 Clean Water Needs Survey estimate Pennsylvania's total water infrastructure need at \$11 billion for drinking water. Existing programs will never be able to address the total financial need for the long-term capital improvement, operation and maintenance of these systems. The need for new investments is evidenced by the overflows, leaking and deteriorated collection systems, deferred rehabilitation and replacement work, and shortage of treatment capacity that plague the state's water systems.

In February 2008, Governor Rendell created The Sustainable Water Infrastructure Task Force and tasked it to develop a report by October 2008 that analyzes the issues related to long-term infrastructure financing. An additional output will be recommendations for the resolution of these issues. The 30-member task force, made up of business leaders, legislators, government officials and industry experts, will be chaired by the Secretary of the Department of Environmental Protection.

The report to be generated by the task force will address:

- Current and projected costs, financial resources available and the gap between for the construction, upgrade, repair and operation and maintenance of Pennsylvania's

drinking water and sewage infrastructure.

- Projected cost savings realized by the consideration and implementation of all available non-structural alternatives.
- Actual costs of water and sewer service, including recommendation on allocating the costs among customers and state and federal assistance programs.
- Recommendations for legislative or regulatory changes to promote the following components of sustainable infrastructure: Effective System Management, Asset Management, System Optimization, Watershed or Regional Approach.

(cont'd on page 4)

If you have any interest in presenting your area of study at a future SWEP lunch and learn please contact Sharon Hill at shill@state.pa.us or (717)787-6842.

Sustainable Water Infrastructure Task Force

(cont'd from page 3)

These 30 individuals will need to roll up their sleeves and ask some tough, but important, questions including:

- ? What are the total infrastructure financing needs, and what are the causes for those needs?
- ? What types of new technologies, treatments and non-structural alternatives are available to improve water quality in lieu of infrastructure? What costs, benefits, and effectiveness do they have?
- ? What aspects of the operation of a water system should be eligible for subsidized funding from the local, state or federal government?
- ? What methods and tools should be developed to assist water in delivering cost-effective service while maintaining public health,

safety and environmental standards?

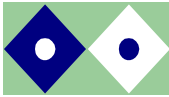
- ? What eligibility criteria would you apply if additional state financing was devoted to water infrastructure?
- ? What can be done through the legislative or regulatory process to encourage greater local investment in infrastructure and or lessen the cost of providing infrastructure improvements?

Regulatory Issues.

The Task Force hosted eight public meetings during May in Allegheny, Clearfield, Luzerne, Montgomery, Northampton, Venango and York counties. Members wanted to hear recommendations on issues the task force should consider; what existing statutory, regulatory or public policy barriers prevent the long-term sustainability of the state's water infrastructure; and possible new revenue streams that could help meet the state's infrastructure needs. Individuals testifying at the meetings included representatives of utility contractors, financial management companies, water resources groups and municipal authorities.

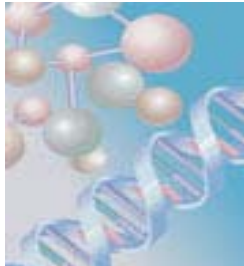
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The Task Force created a subcommittee structure that involves five working groups. Three of the five groups will be Data Collection Working Groups focusing on Needs Assessment, Innovative Measures, and Financial Resources. The other two groups will be Implementation Working Groups focusing on Financial Sustainability and Legislative and



For more information about the task force, visit www.depweb.state.pa.us, keyword: Water Management, then click on the task force link at left.

Environmental Forum on Emerging Contaminants

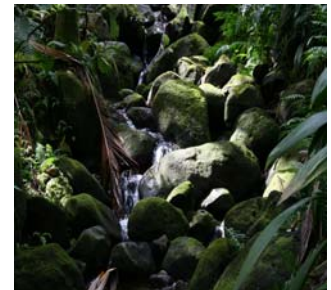


October 17, 2008

10:00 am – NOON

2nd Floor Auditorium

Rachel Carson State Office Building



Mr. Joe Duris from the United States Geological Survey – Michigan Water Science Center, will present the study results from Polymerase Chain Reaction (PCR) analysis on research conducted on the occurrence of pathogenic Shiga-toxin producing *Escherichia coli* (STEC) and markers of fecal sources in surface water from a 27-station water quality network in Pennsylvania. In addition, Dr. Ronald MacGillivray, representing the Delaware River Basin Commission, will present the results of a Pilot Monitoring Survey in the mainstem of the tidal Delaware River that sampled and analyzed ambient waters for emerging contaminants.



Imagery for Everyone... Timeline Set to Release Entire USGS Landsat Archive at No Charge.

The USGS Landsat archive is an unequaled 35-year record of the Earth's surface that is valuable for a broad range of uses, ranging from climate change science to forest management to emergency response, plus countless other user applications. Under a transition toward a National Land Imaging Program sponsored by the Secretary of the Interior, the USGS is pursuing an aggressive schedule to provide users with electronic access to any Landsat scene held in the USGS-managed national archive of global scenes dating back to Landsat 1, launched in 1972. By February 2009, any archive scene selected by a user - with no restriction on cloud cover - will be processed automatically to a standard product recipe, using such parameters

as the Universe Transverse Mercator projection, and staged for electronic retrieval. In addition, newly acquired scenes meeting a cloud cover threshold of 20% or below will be processed to the standard recipe and placed online for at least three months, after which they will remain available for selection from the archive.

Newly acquired, minimally cloudy Landsat 7 Enhanced Thematic Mapper Plus (ETM+) data covering North America and Africa are already being distributed by the USGS over the Internet at no charge, with expansion to full global coverage of incoming Landsat 7 data to be completed by July 2008 (see timeline below). The full archive of historical Landsat 7 ETM+ data acquired by the USGS since launch in 1999 will become available for selection and downloading by the end of September 2008. At that time, all Landsat 7 data purchasing options from the

USGS, wherein users pay for on-demand processing to various parameters, will be discontinued.

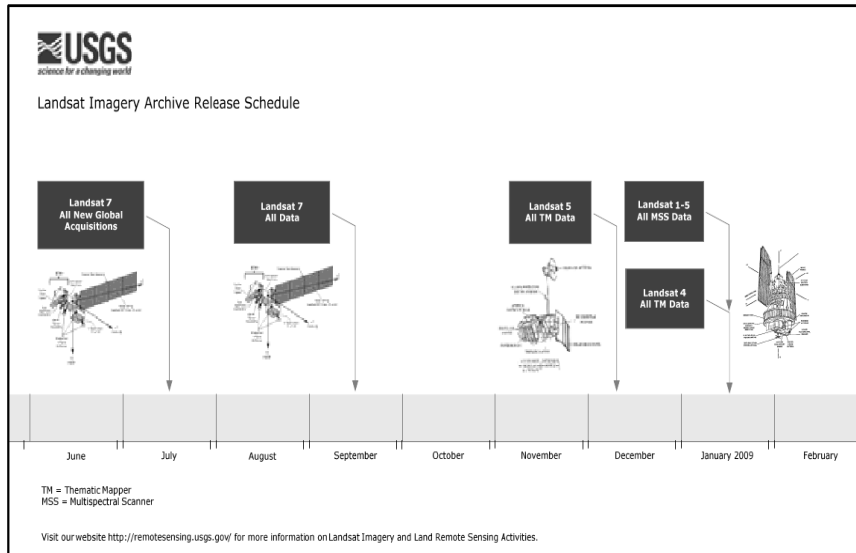
By the end of December of 2008, both incoming Landsat 5 Thematic Mapper (TM) data and all Landsat 5 TM data acquired by the USGS since launch (1984) will become available, with all Landsat 4 TM (1982-1985) and Landsat 1-5 Multi-Spectral Scanner (MSS) (1972-1994) data becoming available by the end of January 2009. All Landsat data purchasing options from the USGS will be discontinued by February 2009 once the entire Landsat archive can be accessed at no charge.

Landsat scenes can be previewed and downloaded using the USGS Global Visualization Viewer at <http://glovis.usgs.gov> [under "Select Collection" choose Landsat archive: L7 SLC-

off (2003-present)]. Scenes can also be selected using the USGS Earth Explorer tool at <http://earthexplorer.usgs.gov> [under "Select Your Dataset" choose Landsat Archive: L7 SLC-off (2003-present)]. For further information on Landsat satellites and products, see <http://landsat.usgs.gov>

Data Available over the Internet
 Landsat 7 - all new global acquisitions July 2008
 Landsat 7 - all data September 2008
 Landsat 5 - all TM data December 2008
 Landsat 4 - all TM data January 2009
 Landsat 1-5 - all MSS data January 2009

For further information on USGS Land Remote Sensing please visit our website: landremotesensing@usgs.gov



Data	Available over the Internet
Landsat 7 - all new global acquisitions	July 2008
Landsat 7 - all data	September 2008
Landsat 5 - all TM data	December 2008
Landsat 4 - all TM data	January 2009
Landsat 1-5 - all MSS data	January 2009

P.O. Box 11666
Harrisburg, PA 17108-1666

Marriages

Member Shannon S. Irvin and David Irvin exchanged vows

on June 28, 2008. The bride is an Environmental Scientist for SAIC, where she interned during her school breaks. Her husband is a Mechanical Engineer for the Navy Depot in Mechanicsburg. The couple met while attending Messiah College in

2006. Shannon's recent projects include the Marcellus Shale natural gas operations in New York.

Congrats to Shannon & David!

SWEP Trivia Answer:

The natural gas potential residing in the Marcellus Shale formation.

The Central Pennsylvania Rock and Mineral Club, Inc. was established in 1958 by rock and mineral enthusiasts to:

Encourage the interest, enjoyment, and appreciation of members, prospective members, and the public for rocks, minerals, gems, fossils, and the lapidary arts.

**Celebrating
50 years!**



SWEP Society of Women
Environmental Professionals



Club is located right here in the Harrisburg area, and puts together events to satisfy everyone from the experienced geologist to the adventurous child. Meetings are held the first Wednesday of every month at 7:30 pm at Mt. Olivet United Methodist Church in Mechanicsburg, PA. Not ready to attend a meeting? Visit the Cen-

tral PA Rock & Mineral Club online at www.rockandmineral.org and learn about local PA minerals, recent scientific findings, upcoming fieldtrips and more.



Want to learn what minerals you can find in your own backyard? Or just want to get your kids interested in science? The Central PA Rock & Mineral

Club is located right here in the Harrisburg area, and puts together events to satisfy everyone from the experienced geologist to the adventurous child. Meetings are held the first Wednesday of every month at 7:30 pm at Mt. Olivet United Methodist Church in Mechanicsburg, PA. Not ready to attend a meeting? Visit the Cen-

NEWSLETTER ARTICLES AND MEMBER NEWS SOUGHT

Your input is extremely crucial to a successful and interesting newsletter!

Newsletters will be published each quarter.

- January 2009
- April 2009
- July 2009
- October 2009

Please have articles to committee 2 weeks prior to the beginning of the quarter.



If you are interested in submitting an article about a project you are working on or

about a topic you are interested in, don't be shy, we would love to hear from you!

Also, please send us your news, photographs and announcements to include in upcoming newsletters. Please forward all information to SWEP Newsletter/Website Chair Rhonda Manning at rmanning@state.pa.us.

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