

## 'Failure to Act' by Congress and the Legislature loses skills and jobs

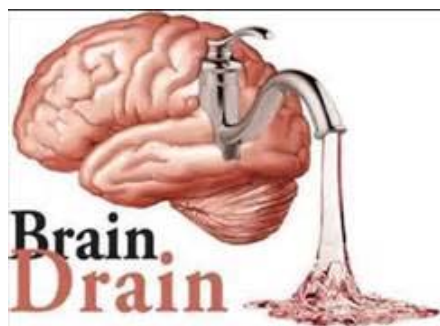
Regrettably, the members of the US Congress and the Pennsylvania Legislature have both neglected our nation's infrastructure over the past year.

Despite the recommendations of Governor Corbett's blue-ribbon Transportation Funding Advisory Committee (TFAC), the PA legislature was unable to fund the long-overdue maintenance to our existing roads and bridges. These upgrades are critical for improving our state's facilities to meet today's and tomorrow's needs.

On the federal level, the federal gas has not been adjust for inflation in over two decades. Despite this fact, Congress has made no headway in funding our nation's infrastructure in the long-term. In fact, with the Highway Trust Fund set to go bankrupt by the end of 2014, now is the time for Congress to act on fixing our surface transportation infrastructure.

For our home state, Pennsylvania's highway bridges are the worst in the nation. A recent letter to the editor from a Shaler resident lamented the 4 hours to travel a 1-hour drive to a concert at the First Niagara pavilion because we haven't made the investment to build the highways necessary to sustain our economy.

Our failure to invest hurts both our national and state economies. Such inaction means that highly skilled construction workers, designers, and engineers are leaving Pennsylvania for opportunities elsewhere.

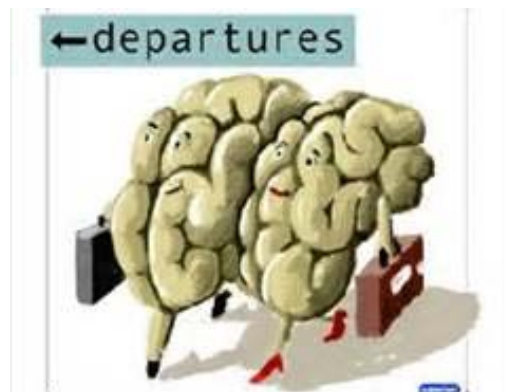


The longer we wait to act, the more it will cost. For example, what cost more: fixing a pothole or closing a lane of a highway? ASCE's Failure to Act studies show that we are already paying for our inaction. The studies conclude that if America continues down its current path on infrastructure investment, America will lose \$3.1 trillion in GDP, \$1.1 trillion in trade value, and 3.5 million jobs—all by 2020.

We have a great illustration of these costs in the civil engineering profession. Look at how many of your colleagues are no longer employed in civil engineering. In Pennsylvania, during the 2012 Construction season,

the unemployment rate for construction workers was over 20 percent! Many of the jobs in energy resources were filled by workers from other states who migrated to Pennsylvania, and not by those displaced because of the Failure to Act of our lawmakers.

The longer we wait to act, the more it will cost future generations. Infrastructure is the foundation of our communities, and is vital for economic growth. Americans need officials at all levels of government to lead on job sustaining and economic revival infrastructure issues now!



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# President's Message



First, let me thank our immediate past President, **Bill Gross, P.E.** of HDR, Officers, Directors, and Technical Institute and Committee Chairs of the Pittsburgh Section for a job, "Well done!" You have provided solid leadership to our Section over the 2012/13 year and we owe him a round of applause! Also, sincere appreciation to our outgoing Directors, **Matt Kusic, P.E.** of **L. Robert Kimball & Associates**, past president **Chuck Schubert, P.E.**, and **Kemal Niksic, P.E.** of **Hatch Mott McDonald** for their three years of faithful service! Kemal, of course will continue to serve as Vice-President, along with new Directors **Tom Batrone, P.E.** also of Hatch Mott McDonald, **Damon Rhodes** of **CDM Smith**, and **Jim Radion** of **Gannett Fleming**, who turned over the reigns of the YMF to **Angela Meyer**. A hearty welcome to **Jonathan McHugh, P.E.** also of Gannett Fleming who joins our Technical Institute group as head of the Architectural

Engineering Institute, AEI, **Jonathan Shimko** to chair EWRI, and **Matt Gilfillan** who joins **Matt Castiglia** of **GAI** as Practitioner Advisor for the Pitt Student Chapter. Also, I want to recognize **Don Splitstone, P.E.** also of HDR, who has stepped up as Chair of the Educational Outreach Committee, a vital part of our outreach strategy. Thanks to you all for your valued contributions to the life of the Pittsburgh Section!

As these changes in our leadership team occur, I'm reminded of the musical, "The Lion King," whose theme song revolves around the, "Circle of Life." Certainly this theme is echoed across our Section as new leaders step up and join the ranks of those continuing to serve and as we thank those who have faithfully carried the ASCE banner throughout their appointed terms.

Your leadership group participated in its annual Strategic Planning session in June. This lively, productive meeting highlighted strategic goals for the next three years. High priorities are public and legislative outreach, membership engagement, and educational outreach to the next generation of civil engineers. We also heard from our Student Chapters and gathered budget input for the 2013-14 year.

I am pleased to report that the Budget Committee met in early July and formulated an aggressive budget that was subsequently approved by your Board.

Leadership opportunities to encourage, inspire, and inform abound within the Pittsburgh Section. We currently have several key openings on our leadership team, including Newsletter Editor, Program Chair, Publicity/Public Affairs, and Continuing Education. Each of these roles is an opportunity to showcase one's organizational, effectiveness, and leadership abilities and expand one's network of contacts, but is also important to the vitality of your Section, state, and nation. I am challenging the general membership to seriously consider volunteering your professional expertise to fill these openings. As the saying goes, "Many hands make light work." Folks, we need a few more hands to lighten the load on our current leaders, some of whom are doing double duty!



Let me wrap-up by saying that we have an exciting year ahead of us with the Fall Kick-off Dinner on September 26th at the Le Mont Restaurant, Engineers' Week Outreach Activities in February, Technical Institute and Student Chapter meetings throughout the year, a full YMF agenda, and a Shale Gas Fracking Conference to plan. These and other activities will make for a full year in the "Circle of Life" of the Pittsburgh Section of ASCE. I encourage you all to join in the excitement!

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## The abstract deadline is September 11.

Recently, new technologies using horizontal drilling and hydraulic fracturing techniques have led to a rapid expansion of the shale oil and gas industry, offering access to new sources of hydrocarbon fuels that hold the promise of energy independence for the United States.

At the same time, valid public concern exists about the dangerous environmental and health effects of the activities, with varying environmental regulations being implemented at the state and federal level in response to the rapid industry growth.

Consequently, some areas of the country are witnessing a rapid growth in the number of wells for exploration, while other areas have delayed this development pending further environmental studies. Moving forward, the challenge for our society is to develop a holistic approach to shale oil and gas exploitation that does not impede useful economic growth and prosperity, while developing solutions that minimize negative environmental impacts and disturbances to the socio-economic fabric of our communities.



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This conference will share knowledge to:

- (1) discuss the technical challenges associated with shale oil and gas development,
- (2) explore the critical environmental issues that exist in this area, and
- (3) present balanced public policy solutions to safely develop our shale oil and gas resources.



The conference will focus on the challenges that lie ahead with developing the means and methods to carefully monitor all aspects of shale oil and gas production.

The conference will encourage and promote the development of technologies and techniques that allow for cost effective shale oil and gas exploration, minimize the impact on water resources, geological stability of impacted areas, air quality, and road, pipeline, water, and wastewater infrastructure asset networks, and generate public confidence in shale energy activity.





# Young Civil Engineers Having Fun and Making a Difference

This summer, the Young Members Forum (YMF) took to the high seas for daring adventure aboard a solid and seaworthy vessel. The 'high seas' was the Allegheny River and the ability to float of the vessel designed and built by young Pittsburgh ASCE members was unquestionable! Several members represented the ASCE Pittsburgh Section well, as participants in the annual Three Rivers Regatta, Anything That Floats Race.



After months of planning, gathering materials and construction, the vessel christened “‘merica n’at” set sail in the completion on the morning of July 4, 2013. The entry was a patriotic tribute to the celebration of Independence Day in Pittsburgh. Decked out in red, white and blue, “‘merica n’at” was a sight to behold. The Pittsburgh part, well, that came from those providing paddle power including

- Sonya Flournoy,
- Jon McHugh, (Gannett Fleming)
- Patrick Miner and
- Greg Scott, (Buchart Horn).

“‘merica n’at”, took home a respectable 4th place finish on the course from PNC Park to Heinz Field and won the award for Best Decorated entry. The rest of the construction team, including

- Jason Fronczek,
- Jim Radion, and
- Angela Mayer

celebrated victory at the finish line when all four sailors came ashore safely. “Next year, we go bigger and better”, proposed Radion during a celebratory toast. We can’t wait.

For more information to engage with the emerging leaders in the Pittsburgh YMF, contact **Angela Mayer**, YMF President, at **KU Resources**, (412) 469-9331, [amayer@kuresources.com](mailto:amayer@kuresources.com)

## WATCH FOR IT!

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Expert volunteers will be assembling data over the next several months to grade the Commonwealth on its performance in:

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|-------------------|------------------------|---------------|
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| • Bridges         | • Parks and Recreation | • Solid Waste |
| • Dams and Levees | • Ports                | • Stormwater  |
| • Drinking Water  | • Rail                 | • Transit     |
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Professional Engineer ASCE members with specific expertise in these fields who would like to participate in the preparation of the Report Card are encouraged to contact Larry Souleret, of Lennon, Smith, Souleret Engineering, at **412-264-4400**, or [lsouleret@lsse.com](mailto:lsouleret@lsse.com).

You can view the existing 2010 Report card at [www.pareportcard.org](http://www.pareportcard.org).

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# Pittsburgh Section Opportunities to Learn and Network

Maintain technical proficiency and current knowledge, and learn what other members, companies, organizations, and lawmakers are doing. **Mark your calendars now.**

Member prices extend to non-member spouses or one guest of member, except as noted by '\*'.

## September 7, Saturday, YMF Golf Outing

## September 7, Saturday, YMF Walk for ALS (Point State Park)

## September 10, Tuesday, YMF September General Body Meeting, Location TBD, 6:00pm

## September 21, Saturday, YMF – CANstruction Build Out Day (Morning 9am-done), Robinson Mall

## September 21, Saturday, YMF – Pirates Tailgate and Game (Skyblast) (5:30 Tailgate, 7:05pm Game)



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September 26, 2013

## Thursday, Kick-Off meeting – Point State Park Fountain Restoration

1. LeMont Restaurant
2. 5:30 pm to 9:30 pm
3. Five-star Dinner
4. Speaker: Eric Kirsch of HRG



## July, 2014 Safe Shale Energy Engineering Conference (SEEC) , Pittsburgh

1. David Lawrence Convention Center (tentative)
2. 3 days
3. Kemal Niksic, P.E., Chairman
4. This conference will share the technology and knowledge to
  - a. provide the protection and remediation to develop public confidence in the safety to the public and environment necessary to avoid adverse effects as occurred with past natural resource extraction and build public confidence so that the economic benefits can be



achieved without health and environmental damage, and

b. share state-of-the art knowledge in engineering, legal, and public policy.

5. See [www.asce.org/shaleenergy2014](http://www.asce.org/shaleenergy2014).

## Project Manager wanted

Engineering and construction company **DGI-Menard, Inc.** is seeking a qualified Project Manager in its Pittsburgh office. The Company is one of the world's leading specialized ground improvement contractors. Position requires a minimum BS in civil engineering or related field. Minimum of 5-7 yrs. experience preferred. Duties will include managing multiple projects at one time, contract negotiations, financial budgeting and site safety audits. Travel required up to 25%.

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## TMDL PART 2

In the last newsletter article TMDLs (Total Maximum Daily Loads) were introduced, and why one should be interested.

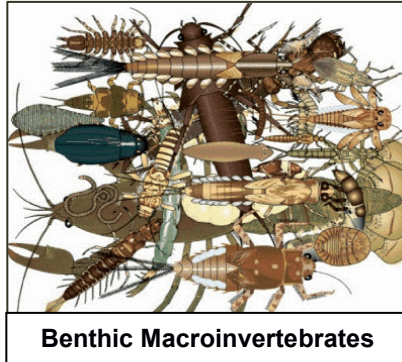
TMDLs on water bodies were compared to the total load that could be applied to a bridge, with background loads, applied loads, and a safety factor.

To determine what load a water body could carry, background information is collected in an Aquatic Life Use survey (ALU survey) on the ability of the organisms in the water body to withstand the pollutants and nutrients loaded into the water body. This process was compared to collecting geologic and survey information on a site where a bridge to serve people is proposed.

This introduction is based on a presentation made to members of the Environmental and Water Resources Institute in the Pittsburgh Section of ASCE by Bill Brown, Chief of the TMDL Development Section in the Division of Watershed Protection of the Pennsylvania Department of Environmental Protection.

The ALU survey is part of monitoring particular watersheds to evaluate the impacts. In the Watershed based approach to monitoring

- Sampling locations are placed to integrate and detect impacts not at just one place, but throughout a watershed
- Data collection at each site consists of benthic macroinvertebrates and physical habitat
- Thorough reconnaissance of watershed to document potential sources and causes of impairment (nonattainment of ALU).



**Benthic Macroinvertebrates**

Data collected is then analyzed to determine whether Aquatic Life Uses are attained. To avoid bias or skewed results, the water professionals who analyze the data use not just one, but a multi-metric approach:

- Biological metrics measure a specific component of the biological community
- 6 biological metrics comprise the Pa DEP Index of Biotic Integrity for freestone riffle/run streams
- The index is on a 100 point scale with 0 being worst and 100 being best
  1. Total Taxa Richness
  2. EPT Taxa Richness
  3. Beck's Index
  4. Shannon Diversity
  5. Hilsenhoff Biotic Index
  6. Percent Sensitive Individuals



Pennsylvania's Watershed Management Cycle is:

- Evaluate or Assess the stream or lake
- Include on Pennsylvania's Impaired Waters List those water bodies that are found to be water quality limited.
- Establish the TMDL to address the impairments for which the water is listed
- Implement the TMDL
- Reassess the waters – check your work!

Next issue: Developing TMDLs to address sources of pollution.

For more information, contact **Bill Brown**, at **PADEP**, **717-783-2951**, [willbrown@state.pa.us](mailto:willbrown@state.pa.us)

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