



Group Against Smog and Pollution, Inc. Hotline



Summer 2011

www.gasp-pgh.org

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UPMC Initiates Clean Construction Policy

by Rachel Filippini, GASP Executive Director

The new system-wide UPMC policy will require all construction equipment of 25 horsepower or greater used on demolition and construction projects, as well as landscape installations to meet the most stringent diesel emissions standards. The contractor will be required to provide UPMC with certification issued by a supplier or manufacturer that the equipment meets the emission requirements.

GASP and Clean Water Action, co-leaders of the Allegheny County Partnership to Reduce Diesel Pollution, praised UPMC for their forward looking policy. The groups

encouraged UPMC to enact the policy and provided guidance on its creation. GASP executive director, Rachel Filippini said, "We applaud UPMC's strong clean construction policy. It shows a commitment to minimizing the health damages caused by diesel emissions." She went on to say that, "Proven technology exists to clean up diesel vehicles and it is refreshing to see that their use is being required."

Construction equipment makes up a considerable portion of our region's diesel particulate emissions and thus is an important sector to focus on cleaning up. A

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Physical Activity and Temporal Trends in Air Quality

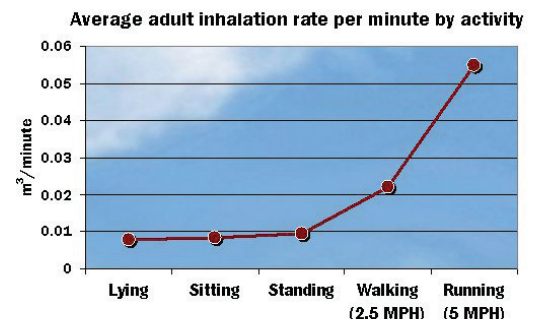
Or: "It was the best of times, it was the worst of times (to exercise!)"

by Joe Osborne, GASP Legal Director

Group Against Smog and Pollution, Inc. (GASP) is a nonprofit citizens group in southwestern Pennsylvania working for a healthy, sustainable environment. Founded in 1969, GASP has been a diligent watchdog, educator, litigator, and policy maker on many environmental issues, with a focus on air quality in the Pittsburgh region.

We all know that getting regular exercise is important to stay healthy, and that breathing polluted air is unhealthy. As our oxygen requirements increase during strenuous exercise, our breathing rate increases to meet this increased oxygen demand. As a result our exposure to air pollution increases as well.

You may be thinking that this is exactly the excuse you've been looking for to adopt an entirely sedentary lifestyle. While the problem of increased pollution exposure



Derived from US EPA, *Exposure Factors Handbook (External Review Draft) (2009 Update)*, p. 6-55, available at: <http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?id=209866>.

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Lester Lave, 1939-2011

A pioneer in establishing the link between pollution and public health

This article was printed as a letter to the editor of the Pittsburgh Post-Gazette on June 13, 2011.

This city and the entire world have lost a great economist and an influential advocate for cleaner air. From the time of his arrival here as a young faculty member at Carnegie Mellon in the early '60s, Lester Lave was a trailblazer. From him we learned the cost we humans pay for contaminating the air. His research showed us, again and again, how to reckon, without emotional bias, the price we pay for doing so.

The intellectual accomplishments and personality of an individual are often linked. One sees this in Professor Lave, who gracefully combined scholarship with fearlessness. I suspect that "telling it like it is" never required painful decisions for him. And emotion-based criticism by detractors probably never cost him a sleepless night. Similarly, I suspect that his head was never turned by the recognition he routinely received.

The air in Pittsburgh, and most other U.S. cities, is now much cleaner than when Lester Lave appeared on the scene

50 years ago. His unflinching and far-sighted analysis of the economics of environmental degradation surely has had a lot to do with this. He has been a model for many of us who toil away as environmental activists.

Professor Lave was a senior fellow at the Brookings Institution, a member of the Institute of Medicine of the National Academy of Sciences, and past president of the Society for Risk Analysis. He served on many committees of the National Academy of Sciences, American Medical Association and Office of Technology Assessment.



WALTER GOLDBURG
Squirrel Hill

UPMC Policy continued from page 1

large construction site can create a public health risk for the surrounding community by consistently emitting large amounts of soot into the air. Hospitals have an obligation to promote healthy lifestyles and communities and to safeguard patients' health, making UPMC's announcement that much more significant.

UPMC's announcement comes at the same time that GASP and partners have been advocating for clean construction legislation in Pittsburgh. If passed, the legisla-

tion would require contractors' working on larger publicly subsidized projects to demonstrate that some portion of the equipment being used is new or has been retrofit with diesel emission reduction technology. A post agenda hearing was held on June 8th to give City Councilmembers an opportunity to hear from and ask questions from experts in health, technology, and policy backgrounds about the merits of the legislation. The preliminary vote scheduled for June 29th was delayed a week and is now scheduled for July 6th. Stay tuned for more information.



The **Hotline** is the quarterly newsletter of the Group Against Smog and Pollution, Inc.

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GASP Mission Statement

GASP will act to obtain for the residents of southwestern Pennsylvania clean air, water, and land in order to create the healthy, sustainable environment and quality of life to which we are entitled.

Methods of Achieving Mission

GASP is a citizens' group based in Southwestern PA which focuses on Allegheny County environmental issues. When pertinent to these concerns, we participate in state and national environmental decisions.

We believe in the public's right to receive accurate and thorough information on these issues and to actively participate in the decision making process.

To achieve our environmental goals on behalf of our membership, GASP will advocate, educate, serve as an environmental watchdog, mobilize action, and litigate when necessary.

We will work both independently and in cooperation with like-minded individuals and groups as determined by the Board of Directors.

We will uphold GASP's reputation for scientific integrity, honesty, and responsible involvement.



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**Exercise and air pollution
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during physical activity is real, replacing these health risks with the health risks associated with prolonged physical inactivity isn't a solution.

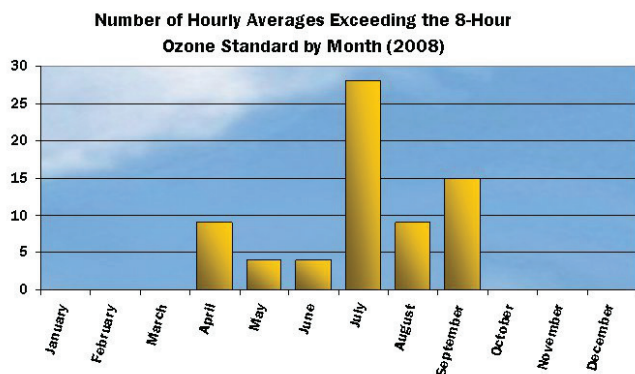
Instead, individuals should seek out convenient ways to minimize their exposure to air pollution during exercise. That doesn't mean wear a gas mask, but before you go jogging, you might want to check the current air quality in your area by visiting www.airnow.gov. If air quality is poor, consider exercising indoors or waiting a few hours to see if air quality improves. As I'll discuss in more detail in a future article, you can also significantly reduce your exposure to traffic-related air pollution by selecting jogging or cycling routes that avoid major roads when possible.

Air pollution concentrations tend to follow relatively predictable temporal patterns. Perhaps the simplest way to minimize exposure to air pollution during exercise is to familiarize yourself with these patterns. Once you know when air pollution is most and least likely to be a problem, you can adjust your routine to avoid outdoor exercise during the times when air pollution concentrations are most likely to be high.

Many parts of Pennsylvania (along with much of the eastern United States) struggle to meet federal health-based standards for two pollutants: particulate matter and ozone. By looking at air monitor data for these pollutants, it's easy to spot some temporal trends in pollutant concentrations. Below I'll use hourly average pollution concentrations measured at the air monitor site in Pittsburgh's Lawrenceville neighborhood to point some of these patterns out. While this monitor data is from Pittsburgh, these pollution trends are not unique to the Steel City. These same pollution trends and the resulting advice about when to exercise hold true just about everywhere.¹

Ozone

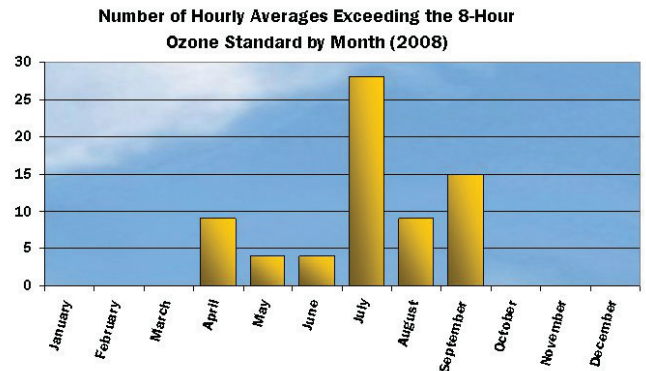
The chart below lists the number of times in 2008 the hourly average ozone concentration at the Lawrenceville monitor reached or exceeded .075 parts per million (ppm).²



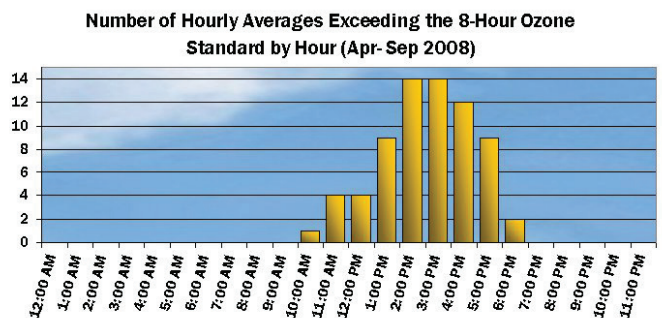
Hourly ozone concentrations at or above .075 ppm only occurred between April and September. This is because ozone

is formed from the reaction of other pollutants (most notably nitrogen oxides and volatile organic compounds) in the presence of sunlight. Less sun means less ozone—one bright side to those short, gloomy winter days.

Rather than focusing only on concentrations of .075 ppm or greater, you can see the same summertime increase by looking at average hourly ozone concentrations by month:



Now let's look at ozone concentrations by hour during the April to September ozone season:



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1 Among the few exceptions to this general pattern are areas where air pollution concentrations are dominated by an intermittent local pollution source. Seasonal variations are, of course, based on seasons, so annual trends would be offset by ~6 months in the southern hemisphere and muted or nonexistent near the equator. PM_{2.5} exhibits both summer and winter peaks, with generally stronger summer peaks in the eastern U.S. and stronger winter peaks in the west.

2 Why .075 ppm? Because the most recent short-term national ambient air quality standard (NAAQS) for ozone is set at .075 ppm, averaged over 8 hours. I use the hourly averages for ozone because an 8-hour average would mask the temporal variation in ozone concentrations, not to second-guess EPA's decision that 8-hour averages are most relevant to human health effects. Does this mean you'd have to jog for 8-hours straight in air exceeding the NAAQS standard? No, the same document in which EPA justifies the 8-hour standard also acknowledges that exercise can increase the sensitivity to and adverse health effects of ozone, meaning multi-hour exposures to high ozone levels are more likely to result in adverse health effects if an individual is physically active during a portion of that multi-hour exposure. U.S. EPA, Air Quality Criteria for Ozone and Related Photochemical Oxidants (Vol. I) page E-22, available at: http://oaspub.epa.gov/eims/eimscomm.getfile?p_download_id=456384.

Greening Your Bookshelf

Interview with Diane Wilson

by Jamin Bogi, GASP Education and Outreach Coordinator

In Jamin's *Greening Your Bookshelf* column, he summarizes books that discuss themes of interest to GASP members whose concerns range far beyond particulate matter and fly ash. This column will hopefully be a landing pad and a take-off point for those interests. No endorsement by GASP of these books or ideas is implied or intended.

Diary of an Eco-Outlaw: An Unreasonable Woman Breaks the Law for Mother Earth by Diane Wilson. Chelsea Green Publishing, 2011. 256 pages.

Diane Wilson, an environmental activist and self-proclaimed “unreasonable woman,” spent the first 40 or so years of her life in Calhoun County, Texas, though her Calhoun County sounds more like a place in a Tom Waits song or a scene from the film “Beetlejuice.” Years ago her “Momma’s daddy” bought a patch of high dirt in Seadrift and his roots began to spread—both from his crops and his ten kids. Stingrays hid in muddy bay flats and could jab and drag off grown men. Rattlesnakes lived in the dewberry vines, the marsh grass was tipped with spikes, and hurricanes spun through occasionally. Pneumonia, gunshots, and lightning bolts took a few family members—and then, Diane says, things took a turn for the worse. “Momma married a fisherman.”

Diane became a deckhand at the ripe old age of eight, due to “boats sinking and good-for-nothing deckhands” and whatnot. Convincing the other fishermen that it was ok for a “woman” to be on the water took some doing. “Women generated storms. Women were eternal curses on the bay.” Some fishermen would rather shoot Coleridge’s albatross rather than have anything female on a boat. One fisherman claimed a hen—yes, a female chicken—snuck on a boat and caused the shrimp to swim away and the net to twist into a hot mess.

But she stuck to it, and had her own boat by age twenty-four. She worked alone, and liked it that way. She loved the water and imagined the bay as a grandmother with “briny bones” and a “dress made of seaweed.” She was “a borderline mystic, seriously unsociable, and happy as a clam.”

And she might have stayed that way for the next bunch of decades, except that major chemical companies had set up shop down the road. While she understood that the smell of watermelon on the water meant trout had just thrown up, she didn’t realize the dangers of the “pipes and cement and metal towers and tanks and flares and fences and chemicals of every description that were coloring the air we breathed,” until a friend threw a newspaper in her lap that said their county was “number one in the nation for toxic disposal.” A few weeks later, Diane had to look in the dictionary to learn what it was that everyone was calling her: an environmental activist.

Her new book chronicles some of her latest exploits, hunger strikes, and arrests, and the pages fly by. Diane was kind enough to answer some questions for me recently, and if she intrigues you as much as she did me, buy the book now. (Questions and answers have been shortened—please visit our website for the full text.)

GASP: Your activism seems to be often solitary or rather very personal—hunger strikes, chaining yourself to a chemical plant, etc. You explain how you “don’t do plans” but prefer to be open to what the world brings you. Is the “Diane Wilson way” of environmental activism a result of your unconventional upbringing, a reaction to being disappointed by government, a spiritual belief, or...? Just the way you operate?

Diane: I read a book once that said our childhood prepares us for our destiny and, at least for mine, I agree with that statement. I was a real loner when I was a child growing up in our fishing village. I have spent my best times sitting in the tide, lying in the pasture with weeds over my head, or hanging onto the farthest branch in the tallest tree. All that time alone and being on and near the water gave me a tremendous sense of place.

So you might say I am naturally inclined to working by myself and in my instance, I think it was a good thing because when I first started my activism, the issues were so controversial that no one would support me or if they did join, they soon quit.

It was a good thing I was a loner because it got very lonely very quick. And as for my tactics—such as a hunger strike—1) it was outside the box and industry couldn’t control it, and 2) I only needed one person—myself—on a hunger strike.

GASP: You write that you were naive, since you once thought that politicians or agencies would do the right thing, tell the truth, etc. What role do you see government playing in the environmental movement? Will they always be lagging or can they lead the way and set a progressive course on some issues?



Connecting the Dots?

by Fran Harkins, GASP Board Member

Ross, Benjamin and Steven Amter, *The Polluters. The Making of our Chemically Altered Environment*, New York, Oxford University Press, 2010, 223 pages.

Covering 200 years of the developing U.S. petrochemical industry, this history acquaints us with the beginnings of the major chemical companies, their trade associations, attempts to regulate their emissions to air and water, and their time-tested, quite successful, strategies to rebuff regulations not of their own making.

Meticulously researched over ten years with 50+ pages of footnotes, the authors distill the details of their study of the oil, gas, pharmaceutical, pesticide and dye-making companies to show patterns of behavior in relating to the public and to government. Ross and Amter reveal a symbiotic relationship benefiting both federal, state and local governments as well as the chemical industry and paving the way for their incredible growth.

For example, in 1802 Thomas Jefferson's desire for a domestic source of high-quality gunpowder sparked the genesis of DuPont Chemical. A century later the Versailles Treaty confirmed the seizure of 4,500 German patents which the U.S. government sold to American manufacturers for a modest amount of \$250,000. Through future years the royalties from these patents have supported industry lobbying, PR and the promotion of chemical research and development. During WWII government supply contracts and its financing of new plants spurred rapid expansion.

The book provides an atypical geography lesson. There are



whole chapters on the coal smoke and fog in the inversion-prone bowl of Los Angeles and the zinc smelter disaster at Donora, PA. Silicosis in Pennsylvania mine-workers, chlorinated solvents in New Orleans drinking water drawn from the Mississippi downstream of petrochemical works, the tens of millions of tons of chemical wastes dumped into Love Canal near Niagara Falls, and the reinjection of oilfield brines in deep geological formations in Victoria, Texas also merit inclusion. Why did Europe develop the precautionary principle while the U.S. trusts

that all chemicals are innocent until proven guilty? If you guessed contaminated beer and arsenic-laced apples, you'd be right.

Fascinating details pepper this saga. But in the end the book's strength is its ability to connect the dots, to shed light on tactics used by industry developed over many decades to fend off regulation. "Spill, study and stall" ranks first, with "stop studies before they begin" a close second. If public pressure demands a study, then they should be conducted either by the polluters themselves or under their influence. Friendly researchers who can cherry-pick data are a great line of defense. Study upon study is an important substitute for action. Another technique is to argue for environmental control to be a state and local matter, leaving regulations hobbled by political pressure and politicians emasculated by the threat that factories could relocate to friendlier jurisdictions.

If you wish to deepen your understanding of the history and tactics of the chemical industry, choose *The Polluters*. 🚲

Interview with Diane Wilson continued from page 4

Diane: I do not look for the government nor the so called 'political leaders' for change (especially in the environment) nor do I look for direction from them. Given the condition that democracy is at this moment and the changes that need to be made in a big big way, our government will always be lagging. What needs to happen is a revolution. That's partly the reason that I will be going to Washington DC on Oct 6 for 'Stop the Machine.' People at the grassroots level will make the change and that's where my hope lays.

GASP: While some of your activism is "splashy," some seems to be somewhat humble, especially when tracking Warren Anderson (former CEO of Union Carbide). You simply find out where he lives and start asking people if they've seen him. How much of environmental activism

should be "splashy" and how much should be simply showing up and putting in the hours until the job is done?

Diane: You have to lay the groundwork to get the splash. Meaning, for instance, sinking my boat on top of Formosa's discharge [one of Diane's protest actions]. 1) There was a bloody good reason I was doing it, 2) I removed the engine so there wouldn't be an oil spill when I sunk it, and 3) I connived a shrimper into pulling me around to the discharge pipe in the middle of the night. The other stuff was totally unexpected: for instance, the shrimpers coming out of nowhere to back me and Formosa's sudden willingness to do anything I wanted (which was zero discharge of their waste stream)...I had no idea that anything like that was going to happen. I just was going to do the sinking because I was outraged and the action was a symbol of my outrage.... So a lot of serendipity goes into my action. 🚲

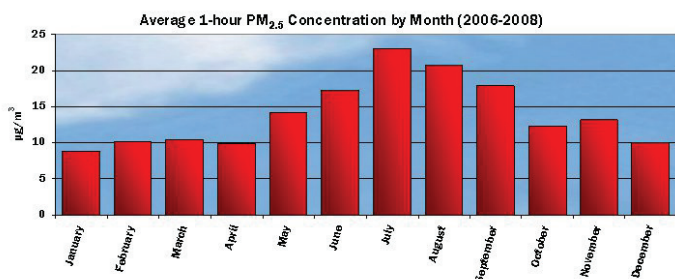
Exercise and air pollution continued from page 3

As you might expect given the relationship between sunlight and ozone formation, ozone concentrations are highest during and shortly after the sunniest part of the day. So the lessons for ozone are clear: from late fall to early spring, ozone is rarely, if ever a concern. During ozone season, ozone levels are usually at their highest in mid- to late-afternoon.

Particulate Matter

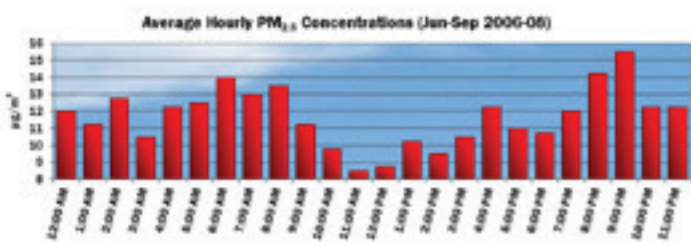
Like ozone, particulate matter (PM_{2.5}) concentrations also vary by season, though not as drastically as ozone. Particulate matter can be a problem any time during the year, but in the eastern U.S. unhealthy PM_{2.5} concentrations are most common between June and September.

The following charts are based on 2006-2008 PM_{2.5} data from Pittsburgh's Lawrenceville monitor.



Like ozone, PM_{2.5} concentrations are most likely to be elevated between late spring and early fall.

So what times of day are PM_{2.5} concentrations most likely to be elevated? The following chart depicts average hourly PM_{2.5} concentrations from June to September.



Early-morning (~6-8 am) and late-evening (~8-9 pm) bumps are evident. These hourly patterns can be largely attributed to two causes: increased mobile source emissions during rush hour and temperature inversions. Normally, air temperature decreases as altitude increases. During an inversion this pattern is reversed, cutting off convection and trapping local air pollution rather than allowing it to rise and disperse. If you ever step outside during the late night or early morning and notice a pervasive sulfur odor in the air, chances are an inversion is to blame.

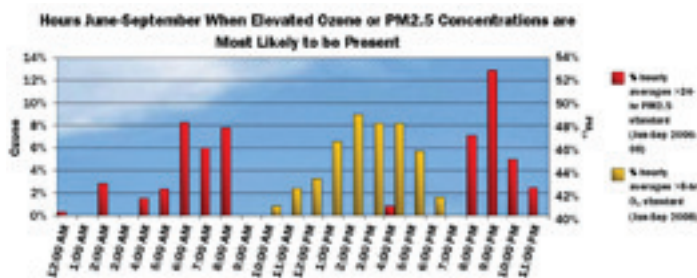
Elevated PM_{2.5} concentrations can occur any time of the

year, but, like ozone, are most common from the late spring to early fall. Unlike ozone, PM_{2.5} concentrations are most likely to be high late at night and in the early morning.

Putting it all together

While unhealthy levels of air pollution can occur any time of the year, those seeking to reduce their exposure to air pollution during outdoor physical activities should be most mindful of current air quality from late spring through early fall

When it comes to identifying the best time of day to exercise, ozone and PM_{2.5} concentrations don't match up so conveniently. The chart below shows the percentage of hourly averages for PM_{2.5} and ozone in excess of the short-term standard for each pollutant:



Given the divergent hourly patterns of PM_{2.5} and ozone, there are only a few portions of the day when concentrations of both pollutants are unlikely to be elevated. Best bets are to try to plan outdoor exercise between 9 am and 1 pm or 6 pm and 8 pm. Keep in mind, these are just general trends. Air quality can be good (or bad) any time of the day or year. It's always best to check current air quality before exercising outdoors.

Again, I'm not suggesting you reduce your general level of physical activity. It's far from clear under what circumstances the numerous positive health effects of exercise are outweighed by the negative health effects of increased exposure to air pollution, but if you reduce your exposure to air pollution by reducing your level of physical activity, you're likely doing yourself more harm than good. Use this information to increase the amount of time you spend exercising when air quality is good, not to decrease the amount of time you spend exercising in general. Of course, the best way to reduce exposure to air pollution is to reduce air pollution emissions and eliminate any need to consult air quality charts and websites in the first place.



Spotlight on a GASP Board Member

This spring, GASP was fortunate to welcome Greg DiMedio as our newest board member.


Greg has a BA in English from the University of Colorado and an MA in English from the University of South Carolina. He decided to join GASP because he cares deeply about environmental issues and problems that affect our region. In his own words, "With too much frequency, I find regional news stories about problems with air quality or drinking water. Pittsburgh is too important and beautiful to be neglected in this way. I want to play an active role in preventing such stories and make Pittsburgh a healthier place to live."



An avid fly fisherman, Greg is a life member of Trout Unlimited and is enrolled in their stream monitoring program to test coldwater streams for changes resulting from hydraulic fracturing (Marcellus fracking). He is also the CEO of Greener

Expressions, a company he's developing that will uniquely educate and connect people with greener products and services through a "location-based platform." Greg says that it will be the first such endeavor of its type in the region and is proud that his company received a City Council proclamation recognizing April 22, 2011 as "Greener Pittsburgh Day" for his efforts to develop and launch greenerpittsburgh.com.

Outside of his company work and fly fishing, Greg enjoys hiking, sketching, mountain biking, surfing, urban gardening and doing stream restoration projects. He's a single dad raising a teenage son and daughter. He feels that his exposure to nature as a child helped shape his adult environmental ethic:

"I think in order to protect something, you have to love it and identify with it. I grew up with this love for the outdoors and nature. My fondest memories were venturing with family and friends into remote areas, learning about the natural world. As I grew older and developed an eye for my surroundings, I would see changes and the impact of pollution on fisheries and the land." 



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GASP ONLINE

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 Our name is "GASP"

Save the Date October 21, 2011



Have a Ball with GASP
Friday, October 21st from 6-9PM
at Highmark SportsWorks at
Carnegie Science Center

Join us for an educational and fun family evening. Learn from local health professionals and athletes alike about air pollution's effect on the active human body.

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