

Straight TALK

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An Executive Decision

A recent decision by our Board of Commissioners approved a staff recommendation for me to move forward with evaluating the sale of water access at Pennsylvania Fish & Boat Commission (PFBC) properties and the leasing of natural gas beneath these properties. Some of you may question the merits of this action in light of the Commission's Resource First mission and liken it to selling your birthright for a mess of pottage. I know I did when I first started thinking about the idea. Some natural gas companies contacted us, and they needed to know whether we wanted to lease our properties or not. Since PFBC land is not in large parcels (we only have a total of 43,000 acres statewide), they could drill gas on adjacent properties with or without us. The reality is that this industry is here to stay, and if you believe otherwise, all you have to do is look at the drilling records, which show that 5,000 new Marcellus wells were drilled last year. There are plans to drill over 5,000 more this year. The primary question is what do we do to minimize the damage from the inevitable?

Believe me, I did not reach my decision without much thought, analysis and consternation. In fact, you should know that a number of years ago, I gave a talk at a scientific meeting and presented a formula called "Arway's Equation for Governmental Decision Making." Since I was trained as a scientist, I analyze things in a quantitative, systematic way and use deductive reasoning for my decisions. The idea behind my equation came from a book called "Chaos," which is based upon a form of mathematics called fractal geometry made popular by a mathematician by the name of Mandelbrot in the 1960s. Mandelbrot's fractals were simple, self-repeating equations that could be used to put some order in disorder. His equations could be used to simulate things like snowflakes, mountain ranges and river networks. So, I decided that I would use the same concept to try to put order in the disorder of government decisions using simple linear algebra in the following equation:

$$\begin{aligned} & \mathbf{a} \text{ (The Science)} + \mathbf{b} \text{ (The Economics)} + \mathbf{c} \text{ (The Politics)} \\ & \quad + \mathbf{d} \text{ (The Social)} + \mathbf{e} \text{ (WWRD)} \\ & \quad = \mathbf{\text{The Decision}} \end{aligned}$$

Where a, b, c, d and e are weighting factors based upon the importance of the variable in the decision.

I concluded that we have sufficient science (a) to understand and prevent or minimize the risks. After all, we had oil and natural gas development in our Commonwealth since Colonel Drake drilled the first oil well in Titusville in 1859. The Pennsylvania Department of Environmental Protection (PA DEP) reports that 325,000 oil and gas wells have been drilled in Pennsylvania since 1859 and approximately 88,300 are still operating wells. I spent much of my early career with the PFBC studying the impacts of shallow oil and gas brine discharges to streams in Northwest Pennsylvania and have confidence that we can control the impacts if we use the proper science in combination with our laws, regulations and policies.

The economic analysis (b) told me that the benefits were worth the costs (risks), since they will be drilling these wells with or without us. There was also some risk of possibly losing our natural gas anyway since simple physics tells us that gases flow from a high-pressure zone (under PFBC properties) to a low-pressure zone (areas around us after they are drilled). Another factor that I considered was that we have 16 high hazard dams, many located within the Marcellus Play (see the map on the next page), that need repaired. I don't have the funds to fix them. These revenues would help me continue to provide those resources and the recreation they provide far into the future.

On the political front (c), our Board asked me to visit with the Governor's Office and the minority and majority leaders of the Game and Fisheries Committee in the House and Senate, which I did, and I either received support or was told to proceed, but use caution.

I have also discussed these issues with many sportsmen and conservationists (d), and we will solicit Board approval in open public session for all natural gas leases before they occur. We will only be looking at non-developmental leases (no wells or well pads on PFBC property) and have been told that leasing our land could actually reduce the number of wells drilled around our land if we do not lease. I have the authority as Executive Director to move forward with

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