

# Straight TALK

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## The Politics of Science or the Science of Politics\*

When I first became executive director of the Pennsylvania Fish & Boat Commission (PFBC) in 2010, a friend of mine, who was a member of the Pennsylvania General Assembly at the time, told me that I just became a politician. I immediately took exception to his comment, which began an interesting debate about politics and science. I learned that anyone who uses his or her position to influence public policy decisions is a politician. Reluctantly, I admitted that I may have become a politician since influencing public policy was the reason I applied for the director position in the first place. I felt somewhat more comfortable with the new title of “politician” after consulting my principal online research tool, **Wikipedia.com**, and finding that some politicians are experienced in the art or science of government. After all, as a fisheries biologist who had practiced the profession for more than 30 years, I certainly had the training to command the science of government. How hard could it be to learn the art of government? Little did I know.

My greatest leadership challenge has been to find a way to inform and engage the public in public policy discussions. “The public” may appear to be a third party to some, but anglers, boaters and conservationists fluctuate from supporters to critics, depending upon the issue. The 2010 United States Census estimated that we have more than 12.7 million people in the Commonwealth, which includes 1.2 million anglers (United States Department of the Interior 2006) and 3 million boaters (United States Coast Guard 2012). I concluded that in order to be effective in my role as a public administrator, I needed to be an “apolitical” politician.

For much of my early career as a PFBC fisheries biologist, I believed that I was going to change the world by producing good science. After many hours of testifying as an expert witness in administrative, civil and criminal courts, I learned that judges never expect



photo: Spring Centhart

absolute certainty (100 percent) but only an opinion to “a reasonable degree of scientific certainty.” That perspective quickly changed when I became involved in public policy and regulatory decisions.

Yes, I discovered that our laws require and our courts apply far more subjective standards of proof. In civil courts, the standard of proof is “preponderance of evidence” (more likely than not). Although the standard of proof is much greater in criminal courts, “beyond a reasonable doubt” (no reason to believe otherwise), it is a much lower standard than scientists hold for ourselves with our own experiments. What standard of proof is used for political science decisions?

### The past

Throughout its history, the Commission has evolved from a one-man operation funded solely by the General Fund to an agency with a complement of 386 staff funded by anglers and boaters through license and registration fees and the federal excise taxes on fishing and boating equipment. The agency’s mission has broadened some from the original one, but it is still focused today on protecting, conserving and enhancing our aquatic resources and providing fishing and boating opportunities. The Commission was originally created to solve the problems caused by dams blocking the free migration of American Shad in the Susquehanna River and water pollution from logging filling our streams and rivers with sediment.

### The future

I believe our future is bright but not without challenges. We have made substantial progress over the last generation by cleaning up our waters, so we have more waters to fish today than when we were children. However, yesterday’s challenges were simple compared to

the environmental and natural resource challenges that we face in the future.

Today's challenges include cancerous tumors, bacterial infections, black spot and intersex in Smallmouth Bass in the Susquehanna River, rapidly expanding deep natural gas development across Pennsylvania and uncertainties about fracking, native Brook Trout compromised by changing climate, Aquatic Invasive Species (AIS) outcompeting native species, lakes, rivers and the Chesapeake Bay clogged with nuisance algae blooms, fewer people, including our legislators, fishing, boating and recreating outdoors, and our unfulfilled obligation to restore American Shad to the mighty Susquehanna River.

Our new challenges will no longer be at the local scale, thus requiring different solutions at the watershed, regional, national and even global scales. We will have to work across disciplines and use the appropriate science to diagnose problems. Innovative engineering skills will have to be applied to develop solutions, and we must have the political will to create laws and provide funding for solutions. It won't be easy, but I am confident that our next generation will have the knowledge, skills, abilities and guts to get it done right.

The most challenging part of my position has been the politics of science and trying to convince our scientists to become advocates for the science they produce. We have far too many data collectors who are well trained in the scientific method but unwilling to advocate for what it concludes. Their reluctance is often explained by their desire to stay unbiased, and many believe their role is to hand over their experimental data to others who will use it to further public policy positions. Unfortunately, there are not sufficient numbers of technocrats in today's society who understand how to translate the science for policy or political decisions and far too many bureaucrats who are concerned only about processing decisions based upon the letter of the law, regulation or policy as defined by someone who preceded them.

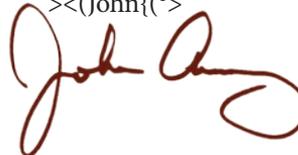
My other major challenge is with the science of politics and trying to explain the meaning and importance of the science, so politicians can apply it during the drafting of the laws that they promulgate. House Bill 1576 was introduced in the General Assembly several years ago, and it was intended to place additional legislative oversight on the process of listing plants and animals on

the Commonwealth's threatened and endangered species lists, which fall within the statutory responsibilities of PFBC, the Pennsylvania Game Commission, and the Pennsylvania Department of Conservation and Natural Resources. House Bill 1576 also included the designations of wild trout streams. These designations are science-based determinations founded on whether a species is rare or whether a stream supports wild trout. The science-based process was targeted to undergo a social/economic public interest test if promulgated. After many debates at public hearings across Pennsylvania, the science arguments and the public prevailed due to widespread public outcry about politicizing a truly science-based decision.

Our future decisions will be far more complicated than those of our past and present. They will involve decisions about environmental and human health impacts that will test our political, social, economic, engineering and science knowledge, and require multidisciplinary cooperation. Our scientists must understand the politics, and our politicians and administrators must understand the science. We cannot afford to waste energy debating whether a river is impaired, the climate is changing, a species is rare or common, or a stream supports wild trout. We need to begin rolling up our sleeves and working together, technocrats and bureaucrats, politicians on both sides of the aisle, in order to prepare for tomorrow's challenges.

Your Director,

><(John{(^>



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*The mission of the Pennsylvania Fish & Boat Commission is to protect, conserve and enhance the Commonwealth's aquatic resources, and provide fishing and boating opportunities.*

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