



Clean Water Action

**Testimony to Philadelphia City Council
Robert Wendelgass, Clean Water Action
April 14, 2008**

Good morning. My name is Robert Wendelgass, and I am the National Deputy Director for Clean Water Action. I have been a resident of Philadelphia for almost 30 years, and served as Pennsylvania State Director of Clean Water Action for 16 years.

Clean Water Action is a national environmental organization with over 100,000 members in Pennsylvania and over 10,000 members in Philadelphia. Clean Water Action has a long history of advocating for safe and affordable drinking water, both locally and at the state and national levels. We appreciate the opportunity to discuss with Philadelphia City Council the important issue of pharmaceutical contamination of Philadelphia's water supply.

The presence of hundreds of unregulated pharmaceuticals and other manmade chemicals in the nation's rivers, streams and drinking water is becoming increasingly well documented due to increased monitoring, better testing techniques and greater use. While the data to date reveals concentrations at relatively low levels, current conventional treatment does not effectively remove them. This is cause for concern, albeit not panic, and for timely action. More research and other common sense measures are needed.

Occurrence of Pharmaceuticals and Other Unregulated Contaminants in the Nation's Waters – The recent Associated Press investigation (“AP Probe Finds Drugs in Drinking Water,” March 9, 2008) brought to greater light what the scientific literature has been documenting for a decade -- a potential toxic stew of organic pollutants, human and veterinary medicine (steroids, antibiotics, anti-depressants, hormones, et al.), personal care products, and various industrial and commercial products in our waterways. The primary sources of these pollutants include wastewater due to pharmaceuticals excreted by the body, industrial discharge, disposal of unused drugs, biosolids and manure used as fertilizer, and agricultural runoff.

More than 100 different pharmaceuticals have been detected in lakes, rivers, reservoirs and streams throughout the world (*Damming the Flow of Drugs in Drinking Water*, Environment Health Perspectives, Volume 113, Number 10, October 2005). In 2000, the U.S. Geologic Survey conducted sampling of streams in 30 states and found pharmaceuticals in 80% of streams, and a majority of streams had at least 5 different pharmaceuticals.

Closer to home, researchers at Villanova University sampled 21 streams in Chester County in

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2004 finding pharmaceuticals in all streams tested, including hormones, antibiotics, and antidepressants. And as reported by the Philadelphia Water Department, its own testing has found 32 pharmaceuticals in our watersheds and 17 different pharmaceuticals in finished tap water.

In addition to knowing that pharmaceuticals are in our rivers, streams, and drinking water, we know that they are having an impact on aquatic species. Studies of fish in the Allegheny River in the Pittsburgh area and in the Potomac watershed have found intersex fish – feminized male fish – along with evidence of exposure to estrogenic hormones in the water. Estrogen compounds are one of the most frequently found pharmaceuticals in water sampling, and represent a potential threat to the ability of fish and other aquatic species to reproduce.

Human Health Risks – Common sense suggests that it's not a good idea to drink somebody else's medicine. "We know we are being exposed to other people's drugs through our drinking water, and that can't be good," says Dr. David Carpenter, who directs the Institute for Health and the Environment of the State University of New York at Albany (AP, 2008).

The ecological and public health impacts of low doses are largely unknown and cannot be dismissed. Pharmaceuticals by their very nature are designed to be biologically active. So, while there is little data on human health effects from exposure to these pharmaceuticals at low levels, we should not assume that this means there are no human health effects from these contaminants. Finding harm to other species in the environment has often been the first step for researchers in understanding how contaminants affect humans. Just because the levels of these pharmaceuticals in our water are low, we should not assume that the consequences are also minimal.

"These are chemicals that are designed to have very specific effects at very low concentrations. That's what pharmaceuticals do. So when they get out to the environment, it should not be a shock to people that they have effects," says zoologist John Sumpter at Brunel University in London (AP, 2008).

Further, there are some specific concerns about human health effects especially from the estrogen compounds being detected. Some cancers, including breast cancer, have been clearly linked to estrogen exposures, and there are legitimate concerns that increasing estrogen exposures through our water supply has the potential to cause harm.

Weaknesses in Current Regulatory Schemes -- There are no federal or state standards or even monitoring requirements for the vast majority of these pharmaceuticals in drinking water or wastewater. Further, the nation's current regulatory framework is so slow, narrowly focused and costly that it is unfit to address this problem.

Traditional wastewater regulations and systems are designed to treat microorganisms and nutrients, not pharmaceuticals and other organic compounds. Making matters worse, loopholes in the Clean Water Act permit industrial discharge into sewers in greater amounts than directly into surface or groundwater even though the sewer plants are not designed to manage such waste.

Advanced treatments such as ozonation, granulated activated carbon, reverse osmosis and nanofiltration membranes can remove significant amounts of pharmaceutical but are expensive. Some states, engineering firms and water utilities are working together on pilot projects to explore treatment options. More research, as well as leadership from U.S. EPA, is needed to build on this and other projects and on the information base that USGS and others have begun.

Actions Needed: While we certainly need to learn more, we know enough to be concerned and take precautionary action. That includes more research on health and ecological impacts and occurrence, upgraded treatment for wastewater and drinking water and most importantly, pollution prevention through pharmaceutical, agricultural and water industry reforms.

Monitoring of pharmaceuticals needs to be increased, and these results should be made available to the public. We need more data on the presence and concentrations of pharmaceuticals in our rivers and streams and in our treated tap water, and this data should be provided to the public. In particular, we should require monitoring from potential wastewater sources of pharmaceuticals, such as sewage treatment outfalls. Some of our drinking water sources, such as the Wissahickon Creek, are largely made up of treated sewage, including wastewater from pharmaceutical manufacturers.

Second, we need more information on proper treatment techniques for removing pharmaceuticals from both wastewater and drinking water. The Philadelphia Water Department should help lead the way in research initiatives to expand our understanding of appropriate treatments. PWD should also incorporate any findings into its planning for future system improvements, in both its drinking water and wastewater programs. PWD will likely to need to update its treatment systems in coming years as new federal requirements come on line. As we modernize our treatment facilities we should examine the full range of threats to both human health and the health of aquatic species.

Third, we need to examine ways to prevent pollution of our waterways with pharmaceuticals. Philadelphia should establish programs to discourage the disposal of unused pharmaceuticals in wastewater, and to encourage 'take-back' of these drugs, even though such programs target a limited source of the problem. Monitoring efforts should target waterways downstream from pharmaceutical manufacturing plants to determine if there are excess quantities of these chemicals in the discharges. The federal government needs to explore options for better design of pharmaceuticals so that there is less impact on the environment, and less excretion of the drug or its metabolites.

Fourth, we should support efforts at the state level to improve protections of the rivers and streams that supply our drinking water. Out of over 80,000 chemicals registered with EPA, our federal drinking water rules require testing for only 83. Like pharmaceutical contaminants, many chemicals are allowed to be discharged into our rivers, relying on drinking water treatment systems to hopefully remove them. New legislation that has been introduced in Pennsylvania's General Assembly -- HB 2157 and SB 1109 -- would amend the state Safe Drinking Water Act to ensure that dischargers into drinking water sources do not degrade our water quality. We encourage the Water Department and City Council to review these bills and to support them.

Finally, we should ask our federal representatives to support better federal support for research into addressing the pharmaceutical contamination problem. President Bush's FY2009 budget contains a \$10 million cut in funding for the National Water Quality Assessment program that has been a major source of research and monitoring data on this issue.

While Philadelphia cannot solve this problem alone, there are a number of actions that the City can take now to make progress on this issue. We appreciate City Council's interest, and look forward to working with Council to help promote safer drinking water and cleaner rivers for all Philadelphians.

Thank you.