

## A Slippery Pollutant

*By Tom Vierheller, Ph.D., KWA Board member and Chair of KWA Water Policy Committee*

We have known about mercury and PCBs as water pollutants for generations. But, for many *Newstreams* readers, our first knowledge of PFAS pollution came from news stories about this type of chemical in Parkersburg, West Virginia. Every year, we become even more aware of this group of manufactured compounds found to be now nearly ubiquitous in our world. More citizens in Kentuckians became aware of these chemicals with the accounts of the PFAS air and water contamination in Henderson, Kentucky in fall of 2021.

PFAS (Per- and Polyfluoroalkyl Substances) are a group of manufactured chemicals introduced by industry and in consumer products since before WWII. Because of their useful properties, consumer demand and a post-WWII mindset of manufactured chemicals offering “better living,” production of PFAS chemicals expanded massively. There are thousands of different PFAS chemicals, with tremendous variation in use and monitoring. Thus, we have a group of synthetic organic chemicals, measured in only parts per trillion (a sand grain in an Olympic swimming pool), and remaining persistent in people, animals and the environment to the extent that these are referred to as “forever chemicals.”

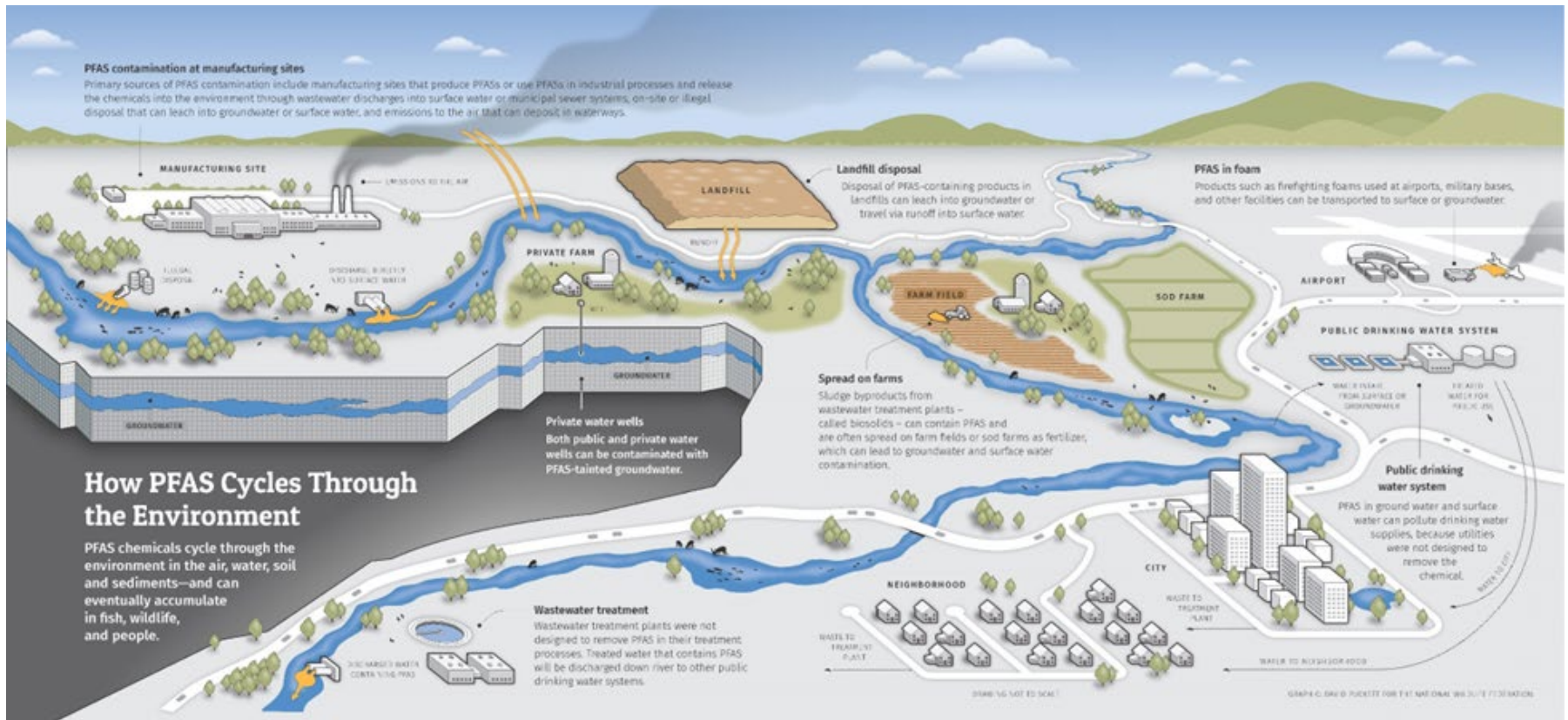
Studies on the effects of PFASs on animal and human populations have included both laboratory and epidemiological research. The C-8 Health Project is an epidemiological study resulting from the West Virginia fluoro-chemical plant releases. This study and others have found probable associations between PFASs exposure and the following illnesses: high cholesterol, thyroid disease, testicular and kidney cancers. The need to test for ultra-low exposures, the diversity of specific PFAS chemicals and the wide range of disease types has made conclusive evidence related to human and animal health effects difficult to demonstrate.

The Kentucky Division of Water has conducted studies for the presence of PFASs at water treatment plants and in surface water. All the public water treatment systems sampled showed levels below the EPA-recommended Health Advisory limit. With the surface water study, PFASs were detected in 36 of 40 monitoring stations; the concentrations were considered generally low. But, the EPA limits for drinking water has only established voluntary limits for just 2 of the PFAS forever chemicals. Multiple toxicology studies indicate that even these voluntary limits for drinking water are far too high. For environmental scientists, understanding what an acceptable level of PFAS in surface water is far from being established.

At KWA, we will continue to review this monitoring data. In addition, we will closely follow agency responses to the PFAS situation in Henderson. We also will be following the U.S. EPA’s “PFAS Strategic Roadmap” plan announced fall 2021. According to Administrator Michael Regan, “EPA’s PFAS strategic roadmap is our plan to deliver tangible public health benefits to all people who are impacted by these chemicals-regardless of their zip code or the color of their skin.” Evidence of PFASs pollution to our waterways and the risk to human health has been mounting for years. The time has well passed for EPA to take solid action.



Sampling PFAS from a lake in Michigan  
Photo credit Michigan Department of Environment, Great Lakes, and Energy



GRAPHIC: David Puckett for the National Wildlife Federation