## PFAS: Polyfluoroalkyl Substances: "Forever Chemicals" and their potential impact.

PFAS (Polyfluoroalkyl substances) have been nicknamed "forever chemicals" because their unique chemistry makes them particularly persistent under typical environmental conditions. These "forever chemicals" break down very slowly, often building up in people, animals, and the environment. These PFAS substances have been around and in use since the 1940's and while very useful, their toxicity is now becoming better understood.

According to the Agency for Toxic Substances and Disease Registry (ATSDR), PFAS can harm our heart, liver, reproductive, renal systems and cause certain cancers. There is some evidence that they can increase cholesterol levels and increase blood pressure in pregnant women, leading to birth defects and dangerous conditions such as pre-eclampsia. PFAS can change liver enzymes and decrease the vaccine response in children. The EPA has identified over 9,100 PFAS substances and they can be present in our water, soil, air, and food as well as in materials found in our homes or workplaces, including drinking water, fire extinguisher foam, manufacturing or chemical production facilities that produce or use PFAS substances, food packaging, household products, dust, personal care products, furniture and biosolids.

These materials have made it into our water sources and hence into our fields where crops are grown and then up the food chain to animals that we use for food and finally to us humans. A new research study, summarized by CNN, documents high levels of PFOS (Polyflorooctane sulfonic acid) chemicals (a subset of PFAS chemicals) in freshwater fish from rivers and lakes. PFOS levels in the fish tested had levels over 8,000 trillion parts per trillion (ppt) while the EPA recommended level in drinking water is 70 ppt. A superficial assessment makes it seems like eating your freshwater fish catch may be the most significant source of PFAS exposure for the average person. Catch and release may be the safest option. Please refer to the CNN link below to view one of the many summary articles about this research.

On January 14, 2023, Pennsylvania joined seven other states, mostly in the Northeast, that have enacted limits on their own ahead of the U.S. EPA. PA DEP sampled water from 400 of the state's over 3,300 public water systems and found detectable limits in over 25% of the samples. The state limits are now set at 18 ppt and 14 ppt for PFAS and PFOS (aka PFOA) chemicals respectively. The effective date is 01/01/2024 for water systems serving populations greater than 350 people and 01/01/2025 for water systems with less than or equal to 350 people This regulation was published in the *Pennsylvania Bulletin* on Saturday January 14, 2023, based on the DEP Press Release published the same day.

According to a New Hampshire PFAS investigation, aside from trying to avoid them or minimizing exposure, utilizing water filtration systems in our homes with granular activated carbon or reverse osmosis water filters will help to reduce potential impacts.

## Note: There is no evidence of any PFASs in the Borough of Kutztown's wells or in our drinking water.

Please check out the following links for more detailed information:

www.epa.gov/pfas

www.greenmatters.com/p/pfas-chemicals

https://www.cnn.com/2023/01/17/health/freshwater-fish-pfas-contamination-wellness/index.html

http://www.dep.pa.gov/PFAS

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