PFAS: WHAT YOU NEED TO KNOW ABOUT YOUR WATER

Communities around the United States are facing grave threats to their drinking water and health due to Per- and Polyfluoroalkyl Substances (PFAS). Sierra Club is dedicated to supporting communities affected by PFAS contamination and end the ongoing uses of PFAS chemicals in fire fighting foam, fabrics, food packaging and other products. We must hold chemical companies and the military responsible for cleaning up the pollution they have created.

THE PFAS PROBLEM

In the United States, more than 16 million people have PFAS- contaminated drinking water.[1] PFAS chemicals are used to make non-stick pans, stain-resistant fabric and waterproof clothing, among other things. The most common source of water contamination is from aqueous fire fighting foam, (AFFF), which is still commonly used at airports, military bases, fire stations and fire training sites. This chemical drains into and contaminating groundwater and drinking water sources, which is then ingested by communities all over the country. Once ingested, PFAS chemicals persist indefinitely in the environment and in people's bodies where they remain for years.

PFAS AND PUBLIC HEALTH

PFAS chemicals are detected in most people worldwide,[2] with greatest concern for exposures during gestation and childhood. They are linked to a variety of health problems including kidney and testicular cancer, immune system damage, high cholesterol and digestive system problems, and significant changes to liver, thyroid, and pancreatic function.[3] PFAS exposures during pregnancy and childhood may permanently impair children's brain development[4] and alter their behavior. Children with high levels of PFAS exposure have weaker immune systems and less robust response to childhood vaccinations.

PFAS AND SAFETY LEVELS

The EPA's current health advisory is set to 70 parts per trillion for two common PFAS chemicals (PFOS and PFOA). However, there are more than a thousand PFAS chemicals in commerce, including dozens in AFFF foams which are still widely used in firefighting. Due to their persistence in the environment and effects in laboratory studies, all PFAS should be anticipated to pose similar hazards to health. EPA and states need to set health guidelines for all forms of PFAS in drinking water.

A recent report by Health and Human Services suggests that individual water limits be lower—7 ppt for PFOS and 11 ppt for PFOA. States are allowed and ***should*** set more protective cleanup standards. Several progressive states already require water treatment when PFOS or PFOA are measured in the 13-20 ppt range, and Vermont sets a limit of 20 ppt for 5 PFAS chemicals.

PFAS AND CONTAMINATION CLEANUP

We support communities across the country in demanding that water companies remove PFAS chemicals and that polluters pay for cleanup. In 2017, the military estimated the cost of cleaning its PFAS contamination on bases to exceed $2.5 billion dollars. Granular-activated carbon systems are most commonly proposed, but lose their effectiveness over time and do not remove newer-

generation PFAS chemicals. Water treatment with reverse osmosis is the most effective, but very expensive, forcing communities to make difficult decisions about financial priorities.

This financial burden should fall on the actors who are ultimately responsible for the contamination: the Department of Defense (DoD) and PFAS-manufacturing companies. Some states and water companies have sued the DoD and manufacturing companies to pay for long-term water treatment necessary to ensure safe drinking water. However, in several other cases, funding for cleanups is placed on the communities themselves via higher water bills. Thus, DoD and chemical companies should be fully responsible for the damage they've inflicted.

WORKING ON A SOLUTION

Sierra Club is advocating for policies that prevent future contamination and get communities the support they need.

While several of the most toxic PFAS chemicals are no longer made in the U.S., hundreds of related chemicals are still emitted by industrial facilities and used in food packaging and consumer products. AFFF foam is required at military bases and large airports. However, AFFF is still used in residential fires and small airports where it is not required by law, creating a hazard to the public.

Federal and state agencies have been lagging in testing for PFAS and failing to fully disclose the extent of contamination to the public. More robust testing is needed using sensitive methods that measure all PFAS chemicals. In addition, water treatment systems must fully remove PFAS chemicals and provide lasting protection.

A larger issue is that, once created, PFAS chemicals persist indefinitely in the environment. There is currently no safe way to destroy PFAS chemical stockpiles. Therefore, all

existing uses of PFAS chemicals should be phased out and replaced with safer technologies. AFFF foams and other PFAS stockpiles must be safely stored[5]—not in landfills or incinerators—until technology can be invented to break them down into harmless compounds.

TAKE ACTION ON PFAS

- Write a letter-to-the-editor about this problem. Email courtney.bourgoin@sierraclub.org for samples and tips for submitting to local papers.
- Tell the Environmental Protection Agency to take immediate action to protect human health. Submit a comment by fall 2018: https://www.regulations.gov/docket?D=EPA-HQ-OW-2018-0270
- Call for the Department of Defense to protect military families and neighbors by paying the full cost of PFAS cleanup.
- Demand your state's environmental department implement strict PFAS safety levels in drinking water for the entire chemical family—not just chemical-by-chemical.

ENDNOTES

1 https://www.ewg.org/research/update-mapping-expanding-pfas-crisis#.W1YgMIVKics
2 https://ehp.niehs.nih.gov/ehp641/
3 https://www.atsdr.cdc.gov/pfas/index.html
4 https://www.atsdr.cdc.gov/pfc/docs/pfas_fact_sheet.pdf
5 https://www.chemours.com/Teflon_Industrial/en_US/assets/downloads/Chemours_Teflon_PFA_C980_Product_Info_K27853.pdf

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