What You Can Do About PFAS in Drinking Water

Communities around the United States face grave threats to their drinking water and health as a result of dangerous chemicals known as Per- and Polyfluoroalkyl Substances (PFAS).

Every day, thousands of PFAS chemicals are emitted from factories and used in products with virtually no oversight. PFAS are currently used in everything from firefighting foam to fabrics to food packaging to non-stick pans to stain-resistant fabric and waterproof clothing and many other things.

Even in small amounts, PFAS harm human health. Because these chemicals are known to persist in the environment and are highly mobile, PFAS contamination is spreading through soil into groundwater, rivers, and accumulating in fish and shellfish, wildlife, and food crops.

The Sierra Club is working to urge state and national governments to end the use of PFAS chemicals and support the communities exposed to the brunt of PFAS pollution produced by factories and industries across the United States.

PFAS Threaten Human Health

Right now, PFAS chemicals can be detected in most people’s blood and internal organs in the United States\(^\text{1}\) and can be linked to a variety of health problems including kidney and testicular cancer, immune system damage, high cholesterol.\(^\text{2}\) PFAS can damage internal organs, including the liver, kidney, pancreas and thyroid. PFAS exposures during pregnancy and childhood may permanently impair development.

PFAS are already contaminating the drinking water of more than 200 million people in the U.S.\(^\text{3}\)

PFAS in firefighting foam

One major source of PFAS in water is the historic and current uses of firefighting foam known as AFFF, which is designed to fight high temperature petroleum fires. The military has identified PFAS contamination at more than 300 locations so far. The foam is also used at airports, refineries, ports and local fire stations. PFAS can be replaced with safer materials in most, if not all, cases.

Congress and states are taking actions to phase out use of PFAS-based firefighting foam, including requiring alternatives at airports by 2021 and in the military by 2024. Several states have completely banned the sale of PFAS foam, and California will soon limit its use in firefighting.
Still, the EPA has taken little action to limit the amount of PFAS allowed in drinking water. EPA does advise that the amount of two chemicals (PFOS and PFOA) should be no more than 70 parts per trillion (ppt), but many other health agencies have concluded that the EPA recommendation is not protective for all age groups, especially during pregnancy and infancy.

The ATSDR, an agency within the CDC, advises that water limits should be much lower for children — 14 ppt for PFOS and 21 ppt for PFOA, much less than what EPA currently advises. For the sake of public health, states can and must set strong protective water limits. Several states have done so, with Vermont’s standard of a maximum of 20 ppt for the sum of 5 PFAS chemicals, as one of the most protective.

Once a drinking water standard for a chemical is adopted by the EPA or a state, the water providers are required to reduce its levels in contaminated water. This can be done by taking a contaminated well or waterway out of service or by treating the water. Treatments to remove PFAS are complicated and very expensive. Some methods, like activated carbon, do not fully remove all PFAS chemicals, and all water providers must budget for on-going costs of buying clean filters and disposing of old ones.

In most cases, the cost of treatment falls on the drinking water provider and is passed onto ratepayers. This adds to existing equity concerns about access to affordable drinking water. Additionally, private well owners have virtually no help in addressing water contamination.

Similarly, PFAS are difficult and costly to remove from the environment, and once they are removed, there are no effective ways to destroy them. Accumulated PFAS will need to be securely stored and safely managed until destruction technologies are brought on line.

These costs will continue to accrue as we continue to use PFAS-laden products, creating a huge financial burden to future generations. In 2017, the military estimated the cost of cleaning its remaining PFAS contamination on bases to exceed $2.5 billion dollars.

States like Michigan, Colorado, New Jersey, Vermont and Washington are developing plans to control PFAS emissions by industry and stop on-going contamination of PFAS chemicals. However, many other states are doing very little to rein in emissions or clean up polluted sites.

The financial burden of pollution should fall on the industries and companies who are ultimately responsible for the contamination — PFAS-manufacturers and, in many places, the Department of Defense (DoD). Some states and local governments have sued the DoD and manufacturing companies to pay for cleanup.

Take Action on PFAS

• EPA has failed to use its powers to regulate PFAS by listing the chemicals in the Clean Air Act, Clean Water Act, or laws that govern hazardous waste, and it continues to approve new PFAS chemicals for use. Tell the Environmental Protection Agency to take immediate action to protect human health.

• Call for the DoD to protect military families and neighbors by fully and immediately cleaning up contaminated water.

• Urge your state to end the use of AFFF in firefighting, investigate PFAS contamination, restrict discharges to land and wastewater, and clean up contaminated sites.

• Write a letter-to-the-editor about this problem. Email toxics@sierraclub.org for sample letters and tips for submitting to local papers.

References
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