



## Costs of PFAS Contamination – Safer States – February 2019



The costs to society, to taxpayers, to communities and to the environment from decades of use of PFAS chemicals are enormous. They include costs to federal, state and local governments for environmental investigations, assessments, inspections and monitoring; cleanup, remediation and waste disposal; water filtration and alternative drinking water supplies; health monitoring and biomonitoring; fish sampling; and wastewater and landfill leachate treatment.

Lawsuit settlements and costs budgeted by state governments give us some idea of the costs of PFAS contamination. However, the full scope of environmental and societal costs are still unknown.

### State Costs

- Michigan is spending [\\$23.2 million](#) for costs associated with PFAS contamination, including testing, monitoring and technical assistance at more than a dozen sites across Michigan.<sup>1</sup>
- In 2018, the North Carolina State Legislature approved a budget of \$8,763,000 for clean-up and projects related to PFAS contamination.
- In Massachusetts, Barnstable County paid [\\$2.95 million for cleanup](#) of contaminated wells in the Town of Barnstable and the City of Westfield approved [\\$13 million bond](#) to address contaminated water.
- New Hampshire taxpayers have shouldered the burden of nearly [\\$14 million to clean up PFAS](#) from a Superfund site owned by Coakley Landfill Group. As of 2017, New Hampshire had already spent roughly [\\$30 million on PFAS remediation](#) projects.
- In New York the cost to install a temporary municipal filtration system and hundreds of private well filtration systems and working to identify an alternate permanent drinking water source in Hoosick Falls, N.Y. was budgeted at [\\$10 million](#).
- PFAS contamination at Cape Fear, NC has cost \$1.8 million to date with an additional \$650,000 for legal fees and water quality testing. In 2018 the North Carolina State Legislature approved a budget of \$8,763,000 for clean-up and projects related to PFAS contamination.

**Military Costs.** Decades of use of firefighting foam containing PFASs has resulted in widespread contamination of water and land near airports and military bases.

- The Department of Defense spent \$200 million to study and test for PFAS contamination in drinking water from the use of PFOA/PFOS-containing firefighting foam and [now estimates cost of \\$2 billion of taxpayer dollars for cleanup of groundwater on 126 bases.](#)<sup>2</sup>
- For example, U.S. Air Force expenditures for assessment and cleanup were: \$9.6 million at Eielson AFB in AK; \$1.7 million at Mather AFB in CA; \$5.7 million at Peterson AFB in CO; \$5 million at Wurtsmith AFB in MI; \$2.3 million at Plattsburgh Airport in NY; \$3.3 million at Wright Patterson AFB in OH; and \$16 million at Warminster AFB in PA.<sup>3</sup>
- [The National Defense Authorization Act \(NDAA\)](#) of 2017 authorized \$7 million to conduct a health study near eight military bases contaminated with PFAS.<sup>4</sup>
- Investment in research to develop a PFAS-free firefighting foam is \$2.5 million to date.<sup>5</sup>

### **Water and Soil Contamination**

- Drinking water supplies for six million U.S. residents exceed the EPA's lifetime health advisory (70 ng/L) for PFOS and PFOA.<sup>6</sup> The costs to fix this problem are unknown.
- Fourteen different Superfund sites were reported to contain PFAS<sup>7</sup> and the EPA's PFOA Stewardship Program identified 16 industrial sites in eleven states with PFAS contamination. No comprehensive report on cleanup costs for these sites is available.

### **Human Health Costs**

While most costs due to adverse health effects have not been quantified, we do know that PFAS are impacting the health of our communities. Several studies have linked in-utero PFOA exposure to increased risk of low birth weight and a recent study has estimated the economic burden of PFOA contamination from increased numbers of low birth weight infants at \$13.7 billion for the period 2003-2014.<sup>8</sup> As the use of PFOA has been phased out and the subsequent human exposure to this chemical reduced, the PFOA-attributable costs to society have gone down from nearly \$3 billion in 2003-2004 to \$347 million in 2013-2014. However, no one has quantified the costs to human health from exposure to next generation PFAS which have been shown to have several adverse health impacts.

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1. Lawler, Emily. Michigan News. PFAS water pollution fight gets \$23.2M from state. July 2018.

2. Copp, Tara. DoD: At least 126 bases report water contaminants linked to cancer, birth defects. Military Times, April 2018.

3. Department of Defense Aqueous Film Forming Foam Report to Congress, Appendix C, DoD Installations with a Known or Suspected Release of PFOS or PFOA, December 2016.

4. PFAS Health Study Required by Congress May Lift Threat of Superfund Suit, Inside EPA, December 19, 2017.

5. GAO Highlights of 18-78, a report to congressional committees, October 2017, p.18.

6. Hu XC, Andrews DQ, Lindstrom AB, Bruton TA et al. Detection of poly- and perfluoroalkyl substances (PFASs) in U.S. drinking water linked to industrial sites, military fire training areas, and wastewater treatment plants. Environ Sci & Technology Letters. 2016;3:344-350.

7. Thurlow et al. PFAS Contamination Remains a Hot-Button Issue: Overview of Recent Regulatory, Litigation, and Technical Developments. ABA, September 2018.

8. Malits J, Blustein J, Trasande L, Attina TM. Perfluorooctanoic acid and low birth weight: estimates of US attributable burden and economic costs from 2003 through 2014. Intern J Hygiene Environ Health. 2018;221:269-275.