



**BEFORE THE UNITED STATES HOUSE OF REPRESENTATIVES  
COMMITTEE ON ENERGY AND COMMERCE  
SUBCOMMITTEE ON ENVIRONMENT & CLIMATE CHANGE**

**TESTIMONY OF ERIK D. OLSON  
SENIOR DIRECTOR FOR HEALTH & FOOD  
HEALTHY PEOPLE & THRIVING COMMUNITIES PROGRAM  
NATURAL RESOURCES DEFENSE COUNCIL**

**Hearing Entitled:  
"Protecting Americans at Risk of PFAS Contamination & Exposure"**

**May 15, 2019**

## BRIEF SUMMARY OF TESTIMONY OF ERIK D. OLSON

### PFAS unfortunately tend to share three problematic properties:

1. **PFAS are highly persistent** “forever chemicals” that don’t not break down easily and can accumulate in the bodies of people and food that we eat.
2. **PFAS are highly mobile and spread quickly** in the environment and are found in our drinking water, air, food, and homes.
3. **PFAS are highly toxic and can be harmful at low doses** (at low part per trillion levels).

### Health Risks Posed by PFAS

As reviewed in a recent extensive NRDC [scientific report](#), PFAS have been linked to a wide range of serious illnesses, some of which can occur at very low levels of exposure. For example, a massive study of 69,000 people exposed to PFAS in their drinking water near a factory in West Virginia found that there is a probable link between certain PFAS and **cancer of the kidneys and testicles, thyroid disease, pregnancy-related hypertension, high cholesterol** that can lead to **heart disease**, and the **autoimmune disease** ulcerative colitis. Other studies have confirmed many of these findings and shown that PFAS are also likely linked to **lower fertility** in women; **harm to developing fetuses, infants and children; liver disease; and weakened immune systems**. Unfortunately, [evidence uncovered in litigation](#) shows that the manufacturers of PFAS have known [for decades](#) that some of these chemicals pose serious health threats, but they hid the information from the public.

### The Widening PFAS Crisis: A National Health Threat

PFAS, a class of about 4,700 chemicals, **are found in the bodies of more than 98% of Americans** – probably in every one of you, your families, and your constituents. A Harvard study found that just two members of this class of toxic chemicals, PFOA and PFOS, are **present in the tap water of at least 16.5 million people in 33 states, including 6 million Americans at levels above EPA’s current weak and unenforceable “health advisories.”** Evidence indicates that **tens of millions of Americans may have tap water containing PFAS at levels CDC and independent scientists consider unacceptable.**

### Urgent Action is Needed to Address the PFAS Crisis

- **“If you find yourself in a hole, stop digging.”** Will Rogers’ adage applies here. We must
  - Stop approving new PFAS and new uses of existing PFAS.
  - Phaseout manufacture of existing PFAS and products using them, such as firefighting foams, food contact substances, clothing, cookware, etc.
- **Document and Publicly Disclose the Extent of the Problem.**
  - Test drinking water, groundwater, and soil for PFAS and publicly disclose results.
  - Require PFAS manufacturers or processors to publicly disclose all uses and releases.
  - Require EPA to establish “Safer Choice” PFAS-free cookware and other products.
- **Regulate and Require Cleanup of PFAS.**
  - List all PFAS as hazardous substances under Superfund/CERCLA §102
  - Require PFAS polluters to pay for cleanup and water treatment

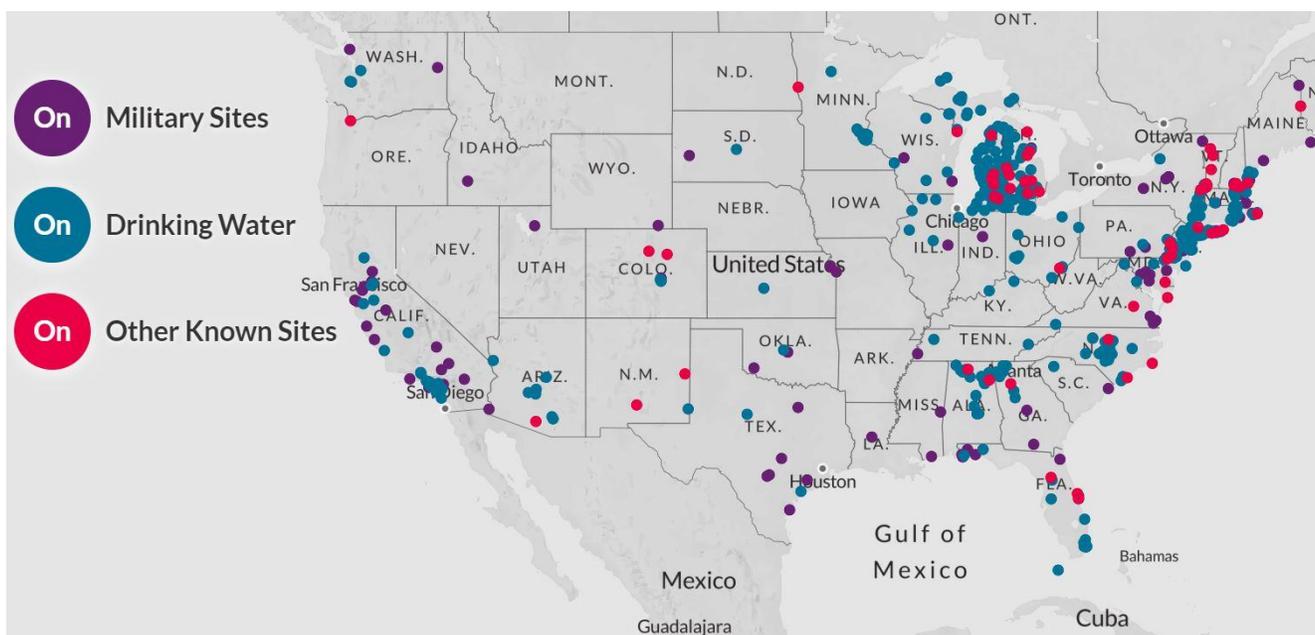
- List the PFAS class as hazardous air pollutants (Clean Air Act §112), as toxic pollutants/hazardous substances under the Clean Water Act (§§307 & 311), and strengthen sludge rules to protect against PFAS contamination.
- Strictly regulate PFAS disposal and suspend PFAS incineration.
- Fix the Safe Drinking Water Act standard setting provisions and set strict health-based National Primary Drinking Water Regulations for the PFAS class.
- Fund water utility PFAS treatment through a fee on polluters and federal funds.
- Cleanup federal facilities, in compliance with strict state and federal standards.

## **INTRODUCTION**

Chairman Tonko, Ranking Member Shimkus, and distinguished members of the Subcommittee, thank you for the opportunity to testify today. I am Erik D. Olson, Senior Director for Health and Food at the Natural Resources Defense Council. My brief biography is attached. I have been working on drinking water and toxics issues for over 35 years first at EPA, and later at non-profit organizations and for the Senate Committee on Environment and Public Works. We appreciate the subcommittee's attention to the important public health and environmental issues posed by per- and polyfluoroalkyl substances (PFAS).

### **PFAS are "Forever Chemicals" Found Virtually Everywhere – Including in All of Us**

You, your family, and probably every one of your constituents has PFAS in your body. PFAS contamination has become increasingly widespread across the United States. Centers for Disease Control and Prevention (CDC) data show that more than 98 percent of U.S. residents tested are carrying PFAS in their blood or tissue.<sup>1</sup> Millions of Americans who drink elevated amounts of PFAS in contaminated tap water or are otherwise more heavily exposed are at greater risk.



**Over 600 known PFAS contamination sites likely represent the tip of the iceberg.**

(Source: [EWG & Northeastern University Social Science Environmental Health Research Institute](#), 2019)

These “forever chemicals” are extremely long-lived in the environment. They can concentrate and last a long time in our bodies and in those of animals. In the words of a 3M scientist working on the manufacture of these chemicals, PFOS “is probably more damaging than PCB because it does not degrade, whereas PCB does; it is more toxic to wildlife,” adding that its end point in the environment appeared to be plants and animals, not soil and sediment like PCBs.<sup>2</sup> Recall that Congress (in an effort led by this Committee and Mr. Dingell) banned PCBs in the original Toxic Substances Control Act in 1976, yet they still pollute our rivers and are still found in our bodies.

Scientists are finding that certain PFAS likely have adverse effects on our health at vanishingly low levels of exposure — *at parts per trillion* levels.<sup>3</sup> As a recent in-depth NRDC report has noted,<sup>4</sup> PFAS are a class of chemicals estimated to contain between 3,000<sup>5</sup> to 5,000<sup>6</sup> industrial chemicals. The figure is often quoted that there are about 4,700 PFAS that have been cleared for use,<sup>7</sup> and it is estimated that there are from about 600<sup>8</sup> to more than 1,200<sup>9</sup> PFAS are in active use in the U.S. Subclasses of PFASs are still being discovered in products and in the environment.<sup>10</sup>

According to a recent study by Harvard researchers, PFAS are in the drinking water in at least 33 states, and they have been detected at levels exceeding EPA's weak Health Advisories for PFOA and PFOS (two PFAS) in the drinking water of more than 6 million Americans.<sup>11</sup> Tens of millions more U.S. residents likely are drinking water with PFAS levels higher than those considered safe by CDC and independent scientists.

Indeed, there are hundreds, or more likely thousands, of PFAS contamination sites nationally, including over 400 military installations with known or suspected releases.<sup>12</sup> As is illustrated in the map reproduced earlier in this testimony, there are over 600 known PFAS contamination sites,<sup>13</sup> and where experts look closely, as in Michigan, we find much more PFAS contamination than previously identified.<sup>14</sup> These contamination sites blanket the landscape from potentially hundreds of sites in Michigan,<sup>15</sup> to the former Chanute Air Force Base in Champaign County, Illinois,<sup>16</sup> Hoosick Falls, NY,<sup>17</sup> Parkersburg, WV,<sup>18</sup> and the Cape Fear River in NC.<sup>19</sup> PFAS also are found in many consumer products ranging from carpets and clothing to cookware and cosmetics, as well as in food, often due to food packaging.<sup>20</sup> These uses result in multiple – and cumulative – routes of exposure in the home including household dust, indoor air, and food.

### **The Health Effects of PFAS are Deeply Concerning**

Numerous studies, including a massive review of nearly 70,000 people exposed to PFAS in their drinking water in West Virginia,<sup>21</sup> and many other human (epidemiological) and animal studies,<sup>22</sup> suggest that the health impacts from these “hot spots” may be formidable.

Scientists have found certain PFAS may increase the risk of: thyroid and liver disease; asthma; lower fertility in women; high blood pressure or pre-eclampsia in pregnant women; increased cholesterol levels; decreased ability to respond to vaccines; and lower infant birth weights.<sup>23</sup> Studies of people exposed in West Virginia also found that PFOA exposure is probably linked to kidney cancer and testicular cancer.<sup>24</sup> Additional evidence has shown links between early life exposures to PFOA and altered mammary gland development.<sup>25</sup> Animal studies have found that PFOA and PFOS can cause damage to the liver and the immune system, birth defects, delayed development, and newborn deaths.<sup>26</sup> A series of in-

depth investigative articles by journalist Sharon Lerner<sup>27</sup> discuss extensive evidence that the risks of certain of these chemicals have long been known and hidden by the manufacturers, with reportedly devastating effects on communities.

The 2014 Helsingør<sup>28</sup> and 2015 Madrid<sup>29</sup> Statements, based upon extensive reviews of the scientific literature, provided consensus from more than 200 scientists on the potential for harm associated with the entire class of PFAS. To better protect Americans from this public health threat, EPA, the CDC/ Agency for Toxic Substances and Disease Registry (ATSDR), other federal agencies, and states should use information on PFAS with greater amounts of data to generate health-protective thresholds for PFASs with data limitations.<sup>30</sup>

### **We Urgently Need Action to Prevent Further Harm from PFAS Now**

There is an urgent need for EPA and states to act. Unfortunately, to date EPA has moved exceedingly slowly and has not used its statutory authorities to regulate the vast majority of use of PFAS, nor has the agency controlled PFAS in drinking water, restricted PFAS water discharges, regulated PFAS as air pollutants, protected against toxic PFAS in sewage sludge or waste disposal, or even required public right to know about toxic releases or uses of PFAS. Indeed, despite clear commitments made by EPA Administrator Scott Pruitt a year ago at the so-called “National Leadership Summit on PFAS,”<sup>31</sup> the agency has not even proposed a determination that a drinking water standard is necessary for any PFAS, nor has it proposed to list PFAS as hazardous substance under CERCLA.

While EPA’s “Action Plan” for PFAS<sup>32</sup> says the agency will *propose* a regulatory determination for a drinking water standard for PFOA and PFOS by the end of 2019 and is considering whether to list these two chemicals under CERCLA, the process to set the drinking water standard will likely take 5 years or more based on the only other contaminant EPA has found it should regulate under the SDWA in the past 22 years (in that case, it has been a decade since EPA proposed its regulatory determination and the agency still hasn’t proposed a standard, despite statutory deadlines and a consent decree). Listing these

chemicals under CERCLA also is likely to take years. Moreover, regulating only two chemicals out of about 4,700 PFAS (and the only two that already have been withdrawn from manufacture in the U.S.), without any suggestion of regulating the rest of the class under the Safe Drinking Water Act or CERCLA, makes it clear that Congress and states must step in to fill the void.

Some of the specific actions we urge Congress to consider include:

### **1. Stop New PFAS (and New Uses), and Phase Out Existing Uses.**

- **Stop approving new PFAS and new uses of existing PFAS.** EPA has approved hundreds of new PFAS and new uses of existing PFAS, over the past decade.<sup>33</sup> We must stop adding more of these toxic forever chemicals to the environment and our bodies. Recently-introduced legislation, **H.R. 2596 (Kuster)**, would prohibit new PFAS and significant new uses of PFAS. We support this important first step.
- **Phaseout manufacture of PFAS and products using them.** Rather than playing “whack a mole” by trying to regulate 4,700 or more PFAS one at a time – an impossible task that would take millennia at the current EPA pace – EPA should be required to phase out this class of highly toxic, highly mobile, and highly persistent compounds. **H.R. 2600, Toxic PFAS Control Act (Dean)**, would ban new PFAS or significant new uses of PFAS, and phase out all PFAS manufacturing, processing and distribution. It also would require EPA to establish disposal requirements for PFAS or PFAS-containing articles. Disposal would have to comply with state and local laws, and notification of state and local officials of disposal is required, as are clear and adequate warnings and instructions for processing, using, distributing or disposing PFAS. Manufacturers or processors would have to report how much they make or use. Manufacturers would also have to accept non-processed PFAS for disposal and replace or repurchase PFAS. We generally support this bill, though amendments are needed (to clarify that EPA rules shall ensure that any disposal method must fully protect public health and the environment, and that until such rules are issued, disposal shall be suspended.)

### **2. Document and Ensure Right-to-Know About the Extent of the Problem.**

- **Test drinking water, groundwater, and soil for PFAS and disclose results.** We need to know how widespread PFAS contamination is. For example, previous snapshot monitoring of primarily larger drinking water systems required by EPA several years ago found that about 16 million Americans’ tap water contained just 6 PFAS required to be monitored, with very high “reporting

limits” that resulted in a clear underestimate of the extent of contamination. When Michigan recently completed more comprehensive monitoring down to lower levels, the state found about 10-fold more people in the state (1.4 million Michiganders) had contaminated tap water than found under EPA’s rule. **We need legislation (not yet introduced) requiring an immediate, comprehensive unregulated contaminant monitoring program of drinking water for all PFAS detectable** by EPA’s methods (about 25 PFAS under a method expected to be certified shortly) **plus for total PFAS** (using the TOP Assay or other method). We also need a USGS monitoring program to test soil, groundwater and surface water, as proposed in **H.R. 1976 (Kildee), The PFAS Detection Act** (referred to the Natural Resources Committee). It should be required in both the drinking water testing bill we propose, and in the USGS bill (H.R. 1976) that test results should immediately be shared publicly in an understandable, online format.

- **Amend the Toxic Release Inventory Right-to-Know rules to require anyone who manufactures or processes PFAS to disclose all uses and releases of the PFAS class.** Any manufacturer, processor or producer of PFAS should be required to publicly report their releases of PFAS under the Toxic Release Inventory; the uses of these chemicals also should be reported. The reports should provide information on both total PFAS and on key individual PFAS of concern. **H.R. 2577, the “PFAS Right-to-Know Act**, would require public reporting of total PFAS releases. We support this bill if the reporting threshold of 1,000 pounds is lowered to 10 pounds, as has been done for PCBs and many other persistent toxins like chlordane, heptachlor, hexachlorobenzene, and others (see [40 C.F.R. 372.28](#)). We also urge that key individual PFAS of concern should be separately reported as well, so that detections of those specific chemicals downstream or downwind can be potentially linked to the releases. Finally, we believe there is a need for reporting of *uses* of PFAS so that EPA, states, local governments, and the public are aware of where and what products PFAS are being used in.
- **Require EPA to establish “Safer Choice” PFAS-free cookware and other products so consumers know how to avoid PFAS.** Consumers regularly and often unknowingly purchase cookware and other products – sometimes labeled “PFOA Free” – even though the products contain other PFAS compounds. **H.R. 2566 (Soto) (Safer Choice Label for Cookware)** requires EPA to provide for a Safer Choice label for pots, pans, and cooking utensils that do not contain PFAS. We support this legislation but suggest an amendment to also require EPA to issue a Safer Choice PFAS-free label for carpet and rugs, dental floss, clothing, footwear, cosmetics, food packaging, and furniture, to empower consumers to make informed choices in the marketplace.
- **The Food and Drug Administration (FDA) should be charged with conducting ongoing, comprehensive testing of food for PFAS, and should publicly disclose the results including brand names of products tested.** To our knowledge, no such legislation has been proposed.

### 3. Regulate PFAS Pollution Under Major Environmental & Health Statutes.

- **List the PFAS class as hazardous air pollutants.** Currently, there is no national requirement to regulate PFAS in air emissions, which in many cases, such as in Hoosick Falls, NY, has resulted in significant contamination of residential areas with high levels of PFAS. **H.R. 2605 (Stevens), the ‘Prevent Release of Toxics Emissions, Contamination, and Transfer Act of 2019’ or the “PROTECT Act of 2019”** would require EPA, within 180 days, to issue a rule adding PFAS as a class all to the list of hazardous air pollutants under [§112\(b\) of the Clean Air Act](#). The bill also would require EPA to list categories and subcategories of major sources and areas sources of PFAS within 1 year after that rule is issued. We support these important measures.
- **List PFAS as toxic pollutants/hazardous substances under the Clean Water Act.** Currently, PFAS are not listed as toxic water pollutants or as hazardous substances under the Clean Water Act. This means that discharges of these chemicals into waterways are not nationally regulated, leaving action up to states that are often ill-equipped (and sometimes prohibited under “no more stringent than federal law” state statutes) to control these wastewater discharges or to prevent and act on releases into waterways. Legislation is needed to require EPA to list the PFAS class as toxic pollutants under Clean Water Act §307(a) and as hazardous substances under §311 to ensure stronger protection against discharges and spills of PFAS into our waterways.
- **Strengthen EPA sludge rules to protect against PFAS contamination of sludge often used in agriculture.** There have been reports in Maine<sup>34</sup> of what is likely a widespread problem: the use of heavily PFAS-contaminated sewage sludge being used in agriculture (e.g. by dairies) and contaminating food. Legislation is needed to require strengthened sewage sludge rules to protect against this.
- **Strictly regulate PFAS disposal and suspend PFAS incineration.** Because PFAS-containing wastes generally are not listed or “criteria” hazardous wastes, their disposal including incineration is very poorly regulated. Strict regulation of PFAS-containing waste is therefore urgently needed. **H.R. 2591 (Khanna), The “PFAS Waste Incineration Ban Act of 2019”** would ban incineration of PFAS firefighting foams within 9 months, and of other PFAS wastes, as EPA determines is necessary to protect human health and the environment, within 18 months. We support this legislation, with amendments. At least an interim ban of incineration is urgently needed due to a current lack of meaningful regulatory controls, but a long-term destruction/ disposal solution is necessary. The bill may inadvertently result in an increase in underground injection of PFAS waste. Safe destruction methods must be developed and required to be used. Currently PFAS incineration generally is *not* subject to strict science-based controls (such as extremely high, carefully-maintained and monitored temperature, e.g. >1000 degrees C, scrubbers and stack monitoring, or other

requirements). Some science-based form of destruction is needed and should be required.

- **Fix the Safe Drinking Water Act standard-setting provisions and set strict health-based National Primary Drinking Water Regulations for the PFAS class.** EPA has not set a single new drinking water standard for an unregulated contaminant (such as any PFAS) in 22 years since the enactment of the 1996 Safe Drinking Water Act Amendments. The standard-setting provisions in section 1412 of that Act are broken and must be strengthened to ensure full protection for vulnerable subpopulations to the extent technically feasible as soon as possible; the Office of Management and Budget, DOD, and other agencies should be prohibited from interfering. **H.R. 2377 (Boyle) “Protect Drinking Water from PFAS Act of 2019”** would require EPA to publish a maximum contaminant level goal and promulgate a national primary drinking water regulation for total PFAS in 2 years. We agree that a drinking water regulation for total PFAS is needed. However, we need to be sure EPA sets a standard that does not undermine and is no weaker than the standards being set by the states. Because the standard-setting provisions of the Safe Drinking Water Act are so weak and convoluted, requiring EPA (especially under its current leadership) to set a standard for total PFAS without fixing the underlying statute runs the risk of resulting in a very weak PFAS standard. Many states could be prohibited from adopting more protective standards once a final EPA standard is issued due to state “no more stringent than federal standards” laws.<sup>35</sup> Moreover, many states may shy away from adopting their own health-protective measures as they await EPA action, which based on past experience will stretch out far past the statutory deadlines. We therefore would support this measure if crafted to ensure the EPA standard does not undermine and is no weaker than the standards being set by the states; to achieve this, the underlying standard-setting provisions of the Act need to be fixed to ensure a swift health-protective PFAS standard. **In the meantime, we urgently need states to step into the void now to set health-protective standards, as recommended in a recent NRDC report and request to Michigan.**<sup>36</sup>
- **PFAS should be banned from food packaging, food contact substances, cosmetics, and personal care products.** While FDA has banned certain long-chain PFAS from food packaging in response to a petition from NRDC and our allies, other PFAS are essentially unregulated in food packaging and food contact substances. Legislation is needed to ban PFAS from these uses and from cosmetics and personal care products like dental floss.
- **PFAS firefighting foam should be banned from use in drills and should be swiftly phased out.** DOD, airports, and others have used PFAS-containing Aqueous Film-Forming Foam for firefighting causing widespread pollution, but in Europe and elsewhere new highly effective firefighting foams made without PFAS are being used. The State of Washington is blocking PFAS foam use in drills, and phasing out their use at airports. DOD says it no longer uses these

foams in training exercise drills. However, we need legislation to ban PFAS foams from use in drills, and swiftly phase out its use by DOD and others.

#### **4. Require & Fund Cleanup of PFAS Contamination**

- **List PFAS as hazardous substances under Superfund/CERCLA §102.** It is difficult for EPA and states to ensure cleanup of PFAS contaminated-sites without a listing of these chemicals as “hazardous substances” under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, or “Superfund”). Although EPA has said it intends to potentially propose listing of just 2 PFAS (the already phased-out of manufacturing PFOA and PFOS), the agency has not mentioned any action on the approximately 4,700 other PFAS. **H.R. 535 (Dingell): “PFAS Action Act of 2019,”** would require EPA to designate total PFAS as hazardous substances under CERCLA §102 within 1 year, a crucial step to protecting public health and the environment that we support.
- **Fund water utility PFAS treatment through targeted grants.** While of course it is important to hold polluters accountable for paying to clean up the PFAS messes they have created, in many cases this may not be feasible, at least in a reasonable timeframe. Particularly in cases of disadvantaged communities that may have difficulty affording to pay the capital costs for advanced treatment, there is an urgent need for federal assistance. **H.R. 2533 (Pallone): “Providing Financial Assistance for Safe (PFAS) Drinking Water Act”** would assist community water systems affected by PFAS contamination. Grants would be provided for capital costs for using eligible treatment technologies for PFAS. EPA would certify technologies that remove all detectable PFAS. The bill prioritizes disadvantaged communities and authorizes \$500M/yr. for 2021-2025. We support this bill but suggest an amendment to clarify that as detection technology improves later, it may not be possible to have treatment that removes all detectable PFAS. After initial certification, treatment technology approval should be based on the most effective technology for total PFAS removal that ensures PFAS are non-detectable, or as detection technology improves, as close to non-detectable as technology allows.<sup>1</sup>
- **Impose a user fee on PFAS polluters to pay for water treatment.** PFAS manufacturers have long known about the health risks and persistence of their products but continued to sell them to unsuspecting users and consumers. This

---

<sup>1</sup> In addition to the Pallone bill H.R. 2533 which has been referred to this Subcommittee, another measure, **HR 1417 (Lawrence), the “Water Affordability, Transparency, Equity, & Reliability Act of 2019”**, includes in §8 an amendment to the Drinking Water State Revolving Fund to provide assistance to a publicly owned, operated, and managed community water system to update a treatment plant or switch water sources due to contamination from PFAS. It would provide assistance in the form of a grant to an owner of a household water well that has been contaminated by PFAS for the purpose of purchasing and installing a household filtration system. We support this measure. It has been jointly referred to the Transportation and Infrastructure, Energy and Commerce, Ways and Means, and Agriculture Committees.

has resulted in widespread pollution of wastewater, sewage sludge, and drinking water. **H.R. 2570 (Rouda) “PFAS User Fee Act of 2019,”** requires manufacturers of PFAS to pay a user fee of \$2 billion/year (to be adjusted every 2 years) to create a Trust Fund to pay for ongoing community water system and wastewater treatment operating and maintenance (O&M) costs associated with contamination from PFAS. Disadvantaged communities are prioritized. We support this bill but suggest the addition of a savings clause providing that it does not affect any other remedy available under any other law.

- **Cleanup federal facilities, in compliance with strict state and federal standards.** DOD has testified before this Subcommittee that there are over 400 DOD facilities with known or suspected PFAS contamination.<sup>37</sup> These sites urgently need to be cleaned up; many are contaminating offsite drinking water, groundwater, and surface water, and unfortunately DOD is often not cooperating with state authorities to ensure full, health and environmentally-protective cleanups. **H.R. 2626 (Upton) “PFAS Federal Facility Accountability Act of 2018,”** is not yet available at this writing, but based upon last year’s parallel bill (H.R. 6835, Upton) the bill would provide for Federal agencies to enter into or amend cooperative agreements with States for removal and remedial actions to address PFAS contamination in drinking water, surface water, ground water, sediment, and soil. It would also require federal agencies to comply with state and federal standards. We would support with amendments to address concerns (which we understand may have been addressed in the new version of the bill) including possible constitutional issues with mandating federal agencies to enter into an agreement, and concerns about the bill’s wiggle room of only applying standards “if applicable and appropriate.” We also believe EPA should be required to list PFAS as a class as hazardous substances under CERCLA.

##### 5. **Ensure Those Threatened or Harmed by PFAS are Tracked & Compensated**

- **Citizens put at risk by PFAS contamination, as well as EPA and states, should be authorized to take immediate legal action** against PFAS polluters and manufacturers to force cleanup and medical monitoring. We need legislation to clarify and expand such authority.
- **Veterans, military personnel, and neighbors of DOD facilities threatened by or exposed to PFAS should be monitored and compensated.** Several bills referred to other committees would take on these important steps.<sup>2</sup>

---

<sup>2</sup> For example, **H.R.1567 (Lujan), The Prompt and Fast Action to Stop Damages Act of 2019** would authorize DOD to temporarily provide water uncontaminated with PFOA and PFOS for agricultural purposes to areas affected by contamination from military installations, and to authorize the Secretary of the Air Force to acquire real property to extend the contiguous geographic footprint of any Air Force base that has shown signs of contamination from PFOA and PFOS due to activities on the base, and for other purposes. We support these steps though the bill needs perfecting amendments (e.g. it uses weak EPA Health Advisories and should cover

## The Human Toll of PFAS Contamination is Enormous

The human impacts of PFAS contamination on peoples' everyday lives are very real. For example, in Hoosick Falls, NY, the serious PFOA contamination of the town's drinking water didn't come to light until a local citizen, Michael Hickey, tested his tap water after becoming deeply concerned about his father's death from kidney cancer, a disease he learned had been linked to PFOA exposure in the West Virginia contamination case.<sup>38</sup> His and his citizen allies' efforts to inform local residents and hold government and local polluters accountable ultimately blew the whistle on the problem and forced action. Local citizens have far higher levels of PFOA in their bodies than average Americans, an issue highlighted by the social media campaign showing children with high levels in their bodies.

---

total PFAS). Additionally, **H.R. 1863 (Norcross): "Protecting Military Firefighters from PFAS Act"** would require DOD to provide blood testing for firefighters of DOD to determine potential exposure to perfluoroalkyl and polyfluoroalkyl substances, and for other purposes. Another bill, **HR 2102 (Kildee), the "Veterans Exposed to Toxic PFAS Act" or "VET PFAS Act,"** would wisely furnish hospital care and medical services to veterans, members of the reserves, and dependents who were stationed at military installations at which they were exposed to PFOA or other PFAS, and provide for a presumption of service connection for those veterans and members of the reserve components. Another measure, **HR 2195 (Pappas): "PFAS Registry Act of 2019,"** would require the Secretary of Veterans Affairs to establish and maintain a registry for certain individuals who may have been exposed to PFAS due to the environmental release of aqueous film-forming foam on military installations. We also support this proposal.

# Hoosick Falls – Social Media Effort PFOA Project



Lauren Jackett photo of  
Francis E. Albanese & family

Courtesy of the Albany Times Union, <https://www.timesunion.com/tuplus-local/article/Top-Stories-2016-PFOA-water-pollution-in-Hoosick-10825849.php#photo-12046319>

Another example comes to us from West Virginia, as reported by the *News Journal*:<sup>39</sup>

Earl Botkin lives in Evans, West Virginia, a small town about 45 miles downriver from [a PFOA manufacturing plant] .... He says he was a healthy man of 55 in 1997 when he began to experience thyroid problems, and soon contracted ulcerative colitis – a form of explosive diarrhea – and high cholesterol. Now he must adhere to a strict regimen of diet and medication to deal with ulcerative colitis which he says was caused by C8 [PFOA] exposure in his drinking water....

[Scientists who] tested 69,000 residents in the area, linked all three illnesses to exposure to the chemical. Botkin believes his health problems stemmed from consuming tap water tainted with C8, which allegedly found its way into [his] municipal water system....

DuPont has said it will not challenge the supposition that drinking water tainted with high levels of C8 can cause ulcerative colitis, thyroid problems and a host of other illnesses. But DuPont will challenge specific cases brought by plaintiffs like Botkin...

Botkin says his life is hell. His days begin at 4 a.m. with coffee and a piece of toast. He needs to eat early so he can digest his food, go to the bathroom and be at work by 8:00 a.m. Botkin eats only a small snack during the day to limit his trips to the bathroom. His big daily meal is dinnertime, and he takes it at home where he has immediate access to a bathroom.

He takes eight steroids a day to stop the bleeding, which makes his face and stomach puffy but does little to help him manage the disease.

The Botkins rarely leave home for fear of having an embarrassing episode outside the home. If he does go out, he must take precautions and scout ahead for a clean bathroom.

Botkin has kept his job as a home inspector because he needs the insurance to cover the cost of his medicine. He says the multiple diseases has made it impossible for him to visit his three children who have relocated to other parts of the country.

"They really ruined us," Botkin said. "We had nice jobs and were about to retire. We had plans."...

Shortly after receiving [a] letter about PFOA in their water, [another WV resident Joe] Kiger began hearing about neighbors contracting strange illnesses. A friend told him about her seven-year old granddaughter's teeth turning black. Three young boys came down with testicular cancer. Friends said their dogs developed tumors.

Kiger... started questioning the West Virginia Department of Natural Resources. Officials there treated him as if he had the plague, he recalled. He received a similar reaction from DuPont... His wife, Darlene, asked how that went. "I told her, I was just fed the biggest line of BS in my life," he said. "He told me there was nothing to worry about, which immediately told me I better start worrying."

Similar stories are playing out in homes and communities across the country.

## Conclusion

The evidence has become clear that PFAS are our new PCBs – but appear to be more widespread and dangerous. They can be toxic at extremely low levels, don't break down, and have become ubiquitous in the environment. They are present in millions of Americans' tap water at unsafe levels and are now found in nearly all of our bodies. They have been linked to a wide array of adverse health effects ranging from kidney and testicular cancer to impacts on the immune system, thyroid, fetal development, and many other harms. Unfortunately, EPA and federal authorities have failed us. They have failed to meaningfully regulate or control PFAS manufacture and use, failed to issue standards to protect our drinking water, ground and surface water, our food, air, and soil. They have failed to protect our health and the environment from spreading contamination by these hazardous compounds. EPA has failed to ensure that PFAS-contaminated sites are cleaned up. The agency must step up to fix the problem, and cannot be subjected to political interference from OMB, DOD, or others. States must immediately step into the breach and issue strong, health-protective drinking water standards and cleanup requirements, and address use of PFAS in firefighting foam and consumer goods like carpeting and food packaging, because regrettably we cannot trust this EPA and federal government to do their job.

Congress must step in to address the many problems that PFAS are causing, to force clean up the contamination and require polluters to pay for the crisis they have created. It was Congress, in an effort starting with the House led by Rep. John Dingell, that mandated the ban on PCBs and required EPA to address that widespread contamination – one of the only significant regulatory actions taken under TSCA from 1976 to 2016. Now we have the “new PCBs.” Congress must again force action to protect public health and the environment.

## Erik D. Olson: Biography

Erik D. Olson is Senior Director for Health and Food at the Natural Resources Defense Council (NRDC), in the Healthy People and Thriving Communities program. He has more than 35 years of experience in consumer, public health, and environmental policy. He oversees NRDC's work on an array of issues including drinking water, toxic chemicals in food and consumer products, pesticides, and other food, agriculture and environmental health concerns. He has worked on drinking water and toxics issues since he began his legal career at EPA in 1984, when he focused on the Safe Drinking Water Act (SDWA), clean water, and hazardous waste issues. He has served on the National Drinking Water Advisory Council and was actively involved in the 1986 and 1996 amendments to the SDWA. His food work at NRDC concentrates on antibiotics overuse in animal production, food waste, agricultural contributions to pollution and climate change, and better and less meat.

Prior to assuming his current position, Olson was Senior Director of Food Programs, and Deputy Director of the Pew Health Group at The Pew Charitable Trusts, where he oversaw work on toxic chemical policy reform, reduction of antibiotics use in animal agriculture, food safety, school nutrition, and the Food and Drug Administration's (FDA) food additives programs. At Pew he helped lead the successful legislative effort to enact in 2011 the first overhaul of the FDA's food safety program in over 70 years.

Previously, he was Deputy Staff Director and General Counsel of the U.S. Senate Committee on Environment and Public Works. During his Senate tenure, he played a key role in major legislation and hearings on global warming, children's environmental health, toxic chemicals, clean air, drinking water, clean water, green buildings, and environmental justice, among other issues.

In his prior 15-year stint at NRDC, he helped enact the Food Quality Protection Act and the 1996 Safe Drinking Water Act Amendments. Previously, he was an attorney at the National Wildlife Federation where he was a litigator and advocate on pesticides, toxics, drinking water, waste and oil spills. Prior to his NWF position, he served as a staff lawyer at the U.S. Environmental Protection Agency's Office of General Counsel, where he litigated and counseled agency clients on water and waste issues.

He has litigated major federal environmental cases ranging from the Exxon Valdez case to drinking water, Superfund, and other groundbreaking federal litigation.

Olson has served on the [National Academy of Medicine](#)'s Food Forum, is a member of the James Beard Foundation's impact programs advisory committee, and is on the Boards for [Food Policy Action](#) and the [Supporters of Agriculture Research](#) (SoAR) Foundation. He received his J.D. from the University of Virginia School of Law, where he was a member of the Order of the Coif legal honor society and served as an editor of the environmental law journal. He earned his A.B. from Columbia University in environmental biology and policy.

## NOTES

- <sup>1</sup> Calafat, Antonia M. et al. "Polyfluoroalkyl Chemicals in the U.S. Population: Data from the National Health and Nutrition Examination Survey (NHANES) 2003–2004 and Comparisons with NHANES 1999–2000." *Environmental Health Perspectives* 115.11 (2007): 1596–1602. PMC. Web. 4 Sept. 2018; see also CDC, National Biomonitoring Program: Biomonitoring Summary, Perfluorochemicals, available at [https://www.cdc.gov/biomonitoring/PFAS\\_BiomonitoringSummary.html](https://www.cdc.gov/biomonitoring/PFAS_BiomonitoringSummary.html) (accessed September 3, 2018).
- <sup>2</sup> 3M employee Richard Purdy, quoted in Keith Matheny, "Internal documents show 3M hid PFAS dangers for decades," *Detroit Free Press*, May 9, 2019, available online at <https://www.freep.com/story/news/local/michigan/2019/05/09/3-m-lawsuit-pfas-water-contamination-michigan/3291156002/>
- <sup>3</sup> ATSDR, Toxicological Profile for Perfluoroalkyls, Draft for Public Comment, June 2018, available online at <https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf> (accessed September 3, 2018). (hereinafter "ATSDR, Toxicological Profile")
- <sup>4</sup> Anna Reade, Ph.D., Tracy Quinn, P.E., and Judith Schreiber, Ph.D., "Scientific and Policy Assessment for Addressing Per- and Polyfluoroalkyl Substances (PFAS) in Drinking Water," NRDC, March 15, 2019, available online at <https://www.nrdc.org/sites/default/files/assessment-for-addressing-pfas-chemicals-in-michigan-drinking-water.pdf>
- <sup>5</sup> Swedish Chemicals Agency (KEMI). (2015) Occurrence and use of highly fluorinated substances and alternatives. Report from a government assignment. Report 7/15. Stockholm, Sweden <https://www.kemi.se/en/global/rapporter/2015/report-7-15-occurrence-and-use-of-highly-fluorinated-substances-and-alternatives.pdf> (accessed September 4, 2018).
- <sup>6</sup> Organization for Economic Co-operation and Development. (2018) Toward a New Comprehensive Global Database of Per- and Polyfluoroalkyl Substances (PFASs): Summary Report on Updating the OECD 2007 List of Per- and Polyfluoroalkyl Substances (PFASs). Series on Risk Management, No. 39. ENV/JM/MONO(2018). Available online at [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV-JM-MONO\(2018\)7&doclanguage=en](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV-JM-MONO(2018)7&doclanguage=en) (accessed September 4, 2018).
- <sup>7</sup> Organization for Economic Cooperation and Development, Toward a New Comprehensive Global Database of Per- and Polyfluoroalkyl Substances (PFASs): Summary Report on Updating the OECD 2007 List of Per and Polyfluoroalkyl Substances (PFASs), May 4, 2018, available online at [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV-JM-MONO\(2018\)7&doclanguage=en](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV-JM-MONO(2018)7&doclanguage=en).
- <sup>8</sup> Chemical Watch, "US EPA announces PFAS action plan: Agency names TSCA a 'gatekeeper' for ensuring safety of new compounds, February 14, 2019, Available online at <https://chemicalwatch.com/74353/us-epa-announces-pfas-action-plan>.
- <sup>9</sup> Sharon Lerner, EPA Continues to Approve Toxic PFAS Chemicals Despite Widespread Contamination, *The Intercept*, October 25 2018, available online at <https://theintercept.com/2018/10/25/epa-pfoa-pfas-pfos-chemicals/>
- <sup>10</sup> Barzen-Hanson K. A., et al. (2017) Discovery of 40 classes of per- and polyfluoroalkyl substances in historical aqueous film-forming foams (AFFFs) and AFFF-impacted groundwater. *Environ Sci Technol* 51:2047-2057, available online at <https://pubs.acs.org/doi/abs/10.1021/acs.est.6b05843> (accessed September 4, 2018).
- <sup>11</sup> Hu, Xindi C. 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." *Environmental Science & Technology Letters* 3.10 (2016): 344–350. PMC. Web., available online at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5062567/> (accessed 4 Sept. 2018); "Unsafe levels of toxic chemicals found in drinking water of 33 states," *The Harvard Gazette*, August 9, 2016, <https://news.harvard.edu/gazette/story/2016/08/unsafe-levels-of-toxic-chemicals-found-in-drinking-water-of-33-states/>
- <sup>12</sup> Maureen Sullivan, Deputy Assistant Secretary of Defense (Environment, Safety & Occupational Health), "Addressing Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA)." Health, March 2018, available online at <https://partner-mco->

---

[archive.s3.amazonaws.com/client\\_files/1524589484.pdf?\\_ga=2.91028698.1354282183.1536020554-1545800389.1530215118](https://archive.s3.amazonaws.com/client_files/1524589484.pdf?_ga=2.91028698.1354282183.1536020554-1545800389.1530215118) (accessed September 3, 2018).

<sup>13</sup> EWG & Northeastern University Social Science Environmental Health Research Institute, PFAS Contamination Interactive Map, May, 2019, available online at [https://www.ewg.org/interactive-maps/2019\\_pfas\\_contamination/map/](https://www.ewg.org/interactive-maps/2019_pfas_contamination/map/).

<sup>14</sup> Michigan PFAS Action Response Team, “Taking Action to Protect the Public’s Water,” 2019, available online at <https://www.michigan.gov/pfasresponse/>.

<sup>15</sup> Keith Matheny, “Is your water safe? Harmful chemical found in many Michigan systems,” Detroit Free Press, August 22, 2018, available online at <https://www.freep.com/story/news/local/michigan/2018/08/22/harmful-chemical-pfas-pfos-pfoa-hundreds-public-water-systems/1067165002/> (accessed September 3, 2018).

<sup>16</sup> See Northeastern University, Social Science Environmental Health Research Institute (SSEHRI), “SSEHRI PFAS Contamination Site Tracker (last updated July 26, 2018), available online at <https://docs.google.com/spreadsheets/d/1HxLAzOmFdMh7V-mey4ExTPsnNKarEcGG6klBWZH8auA/edit#gid=676990244> (accessed September 3, 2018).

<sup>17</sup> Brendan J. Lyons . “Survey: Higher rates of cancer, illnesses followed PFOA exposure Health survey raises questions about earlier health department estimates.” Albany Times-Union, August 21, 2018, <https://pfasproject.com/2018/08/28/survey-higher-rates-of-cancer-illnesses-followed-pfoa-exposure-in-hoosick-falls/>

<sup>18</sup> Arathy Nair, “DuPont Settles Lawsuits Over Leak of Chemical Used to Make Teflon,” Feb. 13, 2017, available online at <https://www.reuters.com/article/us-du-pont-lawsuit-west-virginia/dupont-settles-lawsuits-over-leak-of-chemical-used-to-make-teflon-idUSKBN15S18U> (accessed September 4, 2018).

<sup>19</sup> Cheryl Hogue, “What’s GenX still doing in the water downstream of a Chemours plant?” Chemical & Engineering News, Feb. 12, 2018, available online at <https://cen.acs.org/articles/96/i7/whats-genx-still-doing-in-the-water-downstream-of-a-chemours-plant.html> (accessed September 4, 2018).

<sup>20</sup> ATSDR, Toxicological Profile, *supra*; Zota, Ami R., Cassandra A. Phillips, and Susanna D. Mitro. “Recent Fast Food Consumption and Bisphenol A and Phthalates Exposures among the U.S. Population in NHANES, 2003–2010.” *Environmental Health Perspectives* 124.10 (2016): 1521–1528. PMC. Web, available online at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5047792/> (accessed September 4, 2018).

<sup>21</sup> C8 Science Panel, “C8 Probable Link Reports,” available online at [http://www.c8sciencepanel.org/prob\\_link.html](http://www.c8sciencepanel.org/prob_link.html) (accessed September 3, 2018)(hereinafter “C8 Science Panel”).

<sup>22</sup> See ATSDR, Toxicological Profile, *supra*.

<sup>23</sup> ATSDR, Toxicological Profile, *supra*.

<sup>24</sup> See C8 Science Panel, cited *supra*.

<sup>25</sup> Rudel, Ruthann A. et al. “Environmental Exposures and Mammary Gland Development: State of the Science, Public Health Implications, and Research Recommendations.” *Environmental Health Perspectives* 119.8 (2011): 1053–1061. PMC. Web, available online at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3237346/> (accessed September 4, 2018).

<sup>26</sup> ATSDR, Toxicological Profile, *supra*.

<sup>27</sup> Sharon Lerner, The Teflon Toxin, The Intercept, series available online at <https://theintercept.com/series/the-teflon-toxin/> (accessed September 4, 2018).

<sup>28</sup> Martin Scheringera, Xenia Trier, Ian T. Cousins, Pim de Voogt, Tony Fletcher, Zhanyun Wang, Thomas Webster, “Helsingør Statement on poly- and perfluorinated alkyl substances (PFASs),” *Chemosphere*, Volume 114, November 2014, Pages 337-339, available online at <https://www.sciencedirect.com/science/article/pii/S004565351400678X> (accessed September 4, 2018).

Author links open overlay panel

<sup>29</sup> Blum, Arlene et al. “The Madrid Statement on Poly- and Perfluoroalkyl Substances (PFASs).” *Environmental Health Perspectives* 123.5 (2015): A107–A111. PMC. Web, available online at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4421777/> (accessed September 4, 2018).

<sup>30</sup> See Anna Reade, NRDC, Comments on ATSDR Toxicological Profile on Perfluoroalkyls (2018 Draft), available online at [https://www.nrdc.org/sites/default/files/comments-on-atsdr-toxicological-profile-on-perfluoroalkyls-2018-draft\\_2018-08-21.pdf](https://www.nrdc.org/sites/default/files/comments-on-atsdr-toxicological-profile-on-perfluoroalkyls-2018-draft_2018-08-21.pdf) (accessed September 4, 2018).

---

<sup>31</sup> News Releases from Headquarters, Office of the Administrator, Administrator Pruitt Kicks Off National Leadership Summit on PFAS, Announces EPA's four-step plan, EPA, May 22, 2018, available online at <https://www.epa.gov/newsreleases/administrator-pruitt-kicks-national-leadership-summit-pfas>.

<sup>32</sup> EPA, EPA's Per- and Polyfluoroalkyl Substance (PFAS) Action Plan, February 2019, available online at [https://www.epa.gov/sites/production/files/2019-02/documents/pfas\\_action\\_plan\\_021319\\_508compliant\\_1.pdf](https://www.epa.gov/sites/production/files/2019-02/documents/pfas_action_plan_021319_508compliant_1.pdf)

<sup>33</sup> Sharon Lerner, EPA Continues to Approve Toxic PFAS Chemicals Despite Widespread Contamination, The Intercept, October 25 2018, available online at <https://theintercept.com/2018/10/25/epa-pfoa-pfas-pfos-chemicals/>.

<sup>34</sup> Donna Buttarazzi, "Maine dairy farm plagued by chemical contaminants may be 'tip of the toxic iceberg'," Bangor Daily News, March 23, 2019, available online at <https://bangordailynews.com/2019/03/23/news/york/maine-dairy-farm-plagued-by-chemical-contaminants-may-be-tip-of-the-toxic-iceberg/>

<sup>35</sup> See Environmental Law Institute, "State Constraints: State-Imposed Limitations on the Authority of Agencies to Regulate Waters Beyond the Scope of the Federal Clean Water Act," ELI, May 2013, available online at <https://www.eli.org/sites/default/files/eli-pubs/d23-04.pdf> (study focuses on "no more stringent than" state statutes for Clean Water Act standards, but many of these state laws are broader than just constraining state Clean Water Act rules.)

<sup>36</sup> Anna Reade, Ph.D., Tracy Quinn, P.E., and Judith Schreiber, Ph.D., "Scientific and Policy Assessment for Addressing Per- and Polyfluoroalkyl Substances (PFAS) in Drinking Water," NRDC, March 15, 2019, available online at <https://www.nrdc.org/sites/default/files/assessment-for-addressing-pfas-chemicals-in-michigan-drinking-water.pdf>

<sup>37</sup> Testimony of Maureen Sullivan, Deputy Assistant Secretary of Defense for Energy, Department of Defense, at Hearing entitled "Perfluorinated Chemicals in the Environment: An Update on the Response to Contamination and Challenges Presented." September 6, 2018. Available online at <https://energycommerce.house.gov/committee-activity/hearings/hearing-on-perfluorinated-chemicals-in-the-environment-an-update-on-the>.

<sup>38</sup> Brendan Lyons, Top Stories 2016: PFOA water pollution in Hoosick Falls, Albany Times-Union, December 30, 2016, available online at <https://www.timesunion.com/tuplus-local/article/Top-Stories-2016-PFOA-water-pollution-in-Hoosick-10825849.php#photo-12046319> (accessed September 4, 2018).

<sup>39</sup> Jeff Mordock, "Taking on DuPont: Illnesses, deaths blamed on pollution from W. Va. Plant." The [Delaware] News Journal, April 1, 2016, available online at <https://www.delawareonline.com/story/news/2016/04/01/dupont-illnesses-deaths-c8/81151346/> (accessed September 4, 2018).