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Testimony in support of LD 222, 400, & 407 by Sydney R. Sewall, MD MPH (Hallowell)

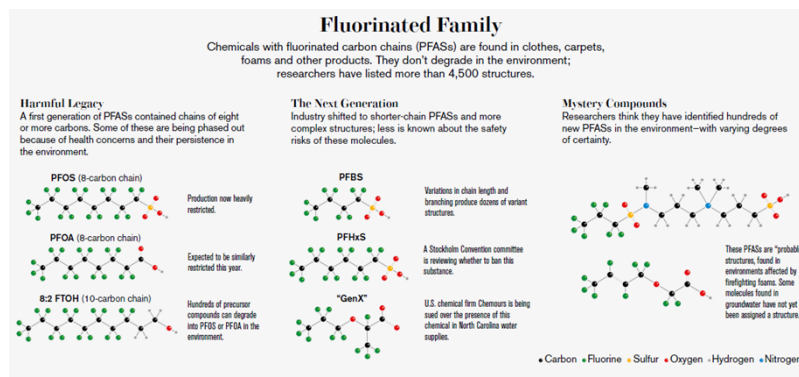
Senator Tepler, Rep. Doudera and members of the Environment and Natural Resources committee:

My name is Syd Sewall, and I am on the board of **PSR Maine**. Our organization represents a thousand practitioners who have an interest in public health. **PSR Maine** was one of three major contributors to the 2007 biomonitoring study titled **Body of Evidence** – where 13 Maine citizens (including a state legislator) had their body fluids tested for 71 different chemicals. These included PDBE's, phthalates, PFC's, and heavy metals. The volunteers were surprised to find that they ALL had toxins in their bodies – with an average of 36 different substances present in each subject. If we studied PFAS today, I would expect to find it in 100% of the subjects.

Biomonitoring studies don't have the ability to prove health effects, but they do point out the fact that we ALL are unwilling participants in a somewhat risky experiment, where multiple chemicals with some degree of toxicity have access to our cells and their complex machinery. "Better living through chemistry" was our nation's motto in the 1950's, and pre-marketing testing was not required. The use of products was presumed to be safe until toxic effects became obvious. We are still unsure of all the unintended consequences, but scientists and clinicians

are increasingly making links between chemical exposure and poor health outcomes – especially in children.

It's not easy to get definitive outcome data regarding toxins like PFAS. They are actually a class of compounds -- not just *one* chemical.



Which ones should you measure? How do you accurately assess exposure? Is there a dose-response curve and a threshold below which exposures are safe? What outcomes should be assessed? Epidemiologic studies in humans are very challenging, with the result that much of the data used to answer these questions is from animal studies. Putting it all together, however, toxicologists have had to repeatedly lower the acceptable level in public water supplies, as we have seen. Available data supports an association between PFAS intake and these health issues (**Nat'l Acad. of Science Guidance 2022**):



Increases in cholesterol levels (PFOA, PFOS, PFNA, PFDA)



Changes in liver enzymes (PFOA, PFOS, PFHxS)



Small decreases in birth weight (PFOA, PFOS)



Lower antibody response to some vaccines (PFOA, PFOS, PFHxS, PFDA)



Pregnancy-induced hypertension and preeclampsia (PFOA, PFOS)



Kidney and testicular cancer (PFOA)

So, I think we can agree that there is a problem. Firefighting foams, unfortunately, have contributed to that problem. The disastrous leakage of stored foam in Brunswick illustrates the risks faced if any of this material escapes containment.

There are some unique properties of PFAS that increase the necessity of assuring storage is secure. PFAS are commonly described as “forever chemicals” because of their **long half-life** in nature – the same is true once they enter our bodies. Equally concerning and less publicized, however, is their **environmental mobility**. They have the unique ability to make their way through geologic barriers. PFAS in treated sewage (or from a leak as in Brunswick) makes its way into a river but then manages to contaminate surrounding groundwater and aquifers. My own hometown of Hallowell is a good demonstration of this point, where our public water supply testing revealed levels that exceed the safety standard. The source of the problem was the Kennebec.

The challenge of identifying and eliminating the many sources of PFAS contamination still remains after dealing with firefighting foam. While research is in progress examining techniques to cope with PFAS proliferation, it behooves us to minimize or eliminate the risk of further environmental contamination from this source as quickly as possible – which is why I urge the committee to take meaningful action by passing all three of these bills.

Sincerely,

Sydney R. Sewall, MD MPH

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