

Good morning Senator Rafferty, Representative Sylvester, and the Labor and Housing Committee.

I am here on behalf of the Maine State Law Enforcement Association and Maine's Forest Rangers. My name is Lisa Byers and I have been employed by the Maine Forest Service for 15 ½ years and this is my testimony, and not that of the Maine Forest Service.

I am here today to request employees of the Maine Forest Service who are working in a position where they respond to fires be added to the Presumptive Cancer Law T39-A 328.B Cancer suffered by a firefighter.

Attached to my testimony is written research detailing the effects of wildland smoke on firefighters. You will read about the chemical composition and how smoke is made in articles written by Kathleen Navarro who holds a PhD and fought wildland fires out West, these articles will break down the more exposure to smoke the higher the incidence of cancer is over a 25-year career.

The research will show wildland firefighters, which Maine Forest Rangers are, are exposed to chemicals such as:

- Carbon Monoxide
- Carbon dioxide
- Polycyclic aromatic hydrocarbons (PAH)
- Benzene
- Formaldehyde
- Acrolein

These chemicals are found in smoke from forest fires, this does not include the poisons from household goods or plastics. The research on household materials burning is what allowed the Fire Marshals to be added to the bill in 2016. Maine's Forest Rangers are exposed to these very same hazards on fires.

PAHs are a class of compounds consisting of two or more fused benzene rings. They are hazardous air pollutants formed during incomplete combustion and are known mutagens and carcinogens (Navarro). Past occupational health studies found that exposure to PAHs was associated with a higher risk of lung and bladder cancer and skin cancer from dermal exposure to PAHs (Navarro).

What's incomplete combustion? When something doesn't fully burn. When we put a fire out, we are stopping the combustion process, therefore increasing the incomplete combustion problem, therefore increasing the smoke exposure.

Think about when you have burned a candle, and it's burning away, smells good, and there doesn't appear to be any smoke. Now blow the candle out, there's a lot of smoke. Now make that candle into trees and you can extrapolate the smoke release from these new "candles" and that is what we are breathing in along with everything else that is burning – which may or may not be a natural material.

The National Wildfire Coordinating Group (NWCG) which are the federal standards we adhere to for training and for safety has a 236 page manual which goes along with a class on Smoke Management on wildfires.

This manual has not been updated since 2001 and on page 36 advises:

- Benzo(a)pyrene, anthracene, benzene and numerous other components found in smoke from wildland fires can cause headaches, dizziness, nausea, and breathing difficulties. In addition, they are of concern because of long term cancer risks associated with repeated exposure to smoke.

In summary, it is essential you realize a ranger's exposure to toxic and carcinogenic causing agents is similar to Interior Firefighters and the Fire Marshal's Office. While some of the risk can be mitigated with wearing nomex for skin exposure, and using soap, the utilization of respirators and face masks on wildfires has not reached a point where they are practical while in the suppression stage.

Please let me know if you have any questions.

Lisa Byers