





# Solutions for Addressing PFAS

## PFAS INVESTIGATION

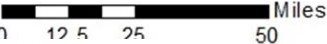
Updated: May 14, 2018

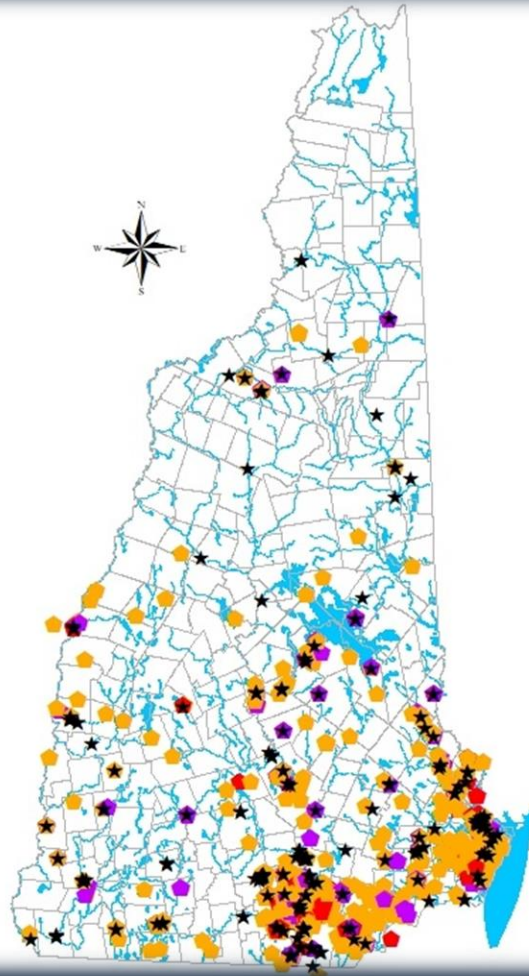
### SAMPLES WITH PFAS DETECTS TOTAL PFAS (ppt)

-  70+
-  45 - <70
-  Detect - <45
-  Existing Remedial Site  
with PFAS Detections

 Political Boundary

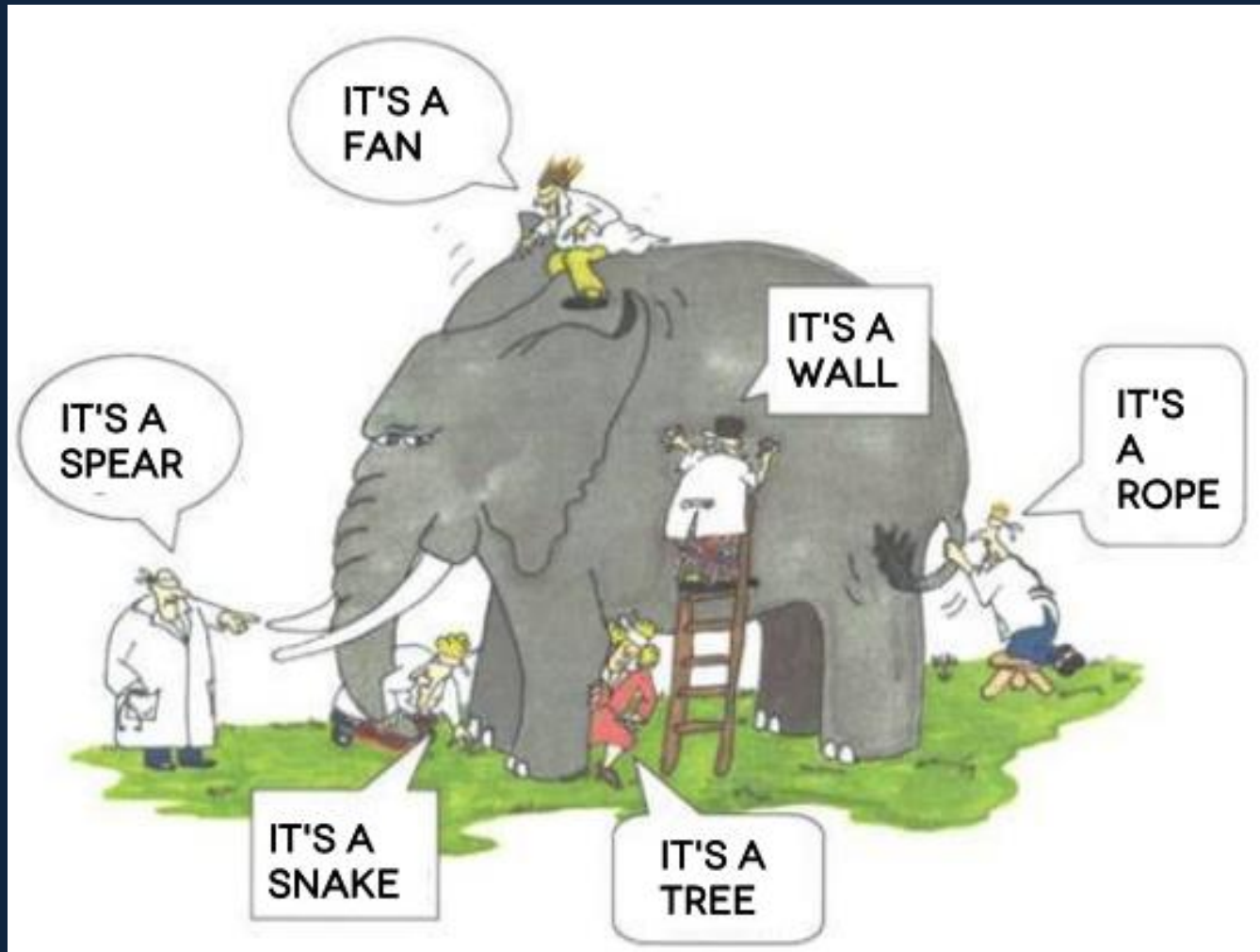
 Major Waterbody

 Miles  
0 12.5 25 50



National Leadership Summit: Per- & Polyfluoroalkyl Substances  
Brandon Kernan, PG – NH Dept. of Environmental Services  
May 22–23, 2018

# PFAS Needs and Challenges



We do not have the complete picture

# Needs and Challenges

- 1) Need **standards** or **health advisories** (not just toxicity data)
  - Otherwise expect misaligned guidance and communication among states for PFAS in drinking water.
- 2) There are more than 3,000 PFASs on the global market
  - Labs analyze for 6 to 39 compounds
  - PFAS precursors need to be addressed (Pre-PFAS)
  - States and EPA are developing health information one compound at a time & there are currently federal advisories for only two compounds.
- 3) Whole classes of similar compounds are being missed
  - Include a hydrogen atom in place of a fluorine atom or unsaturated acid (hydro-perfluorinated compounds)
  - Similar C6-C20 to PFAS homologous series
  - Commercial labs do not look for these
- 4) Surface water quality standards/Fish consumption guidelines
- 5) Air emissions/Indoor air standards
  - What levels in the air are safe? Current TLV last updated in 1992.
  - What levels are protective of groundwater/surface water?
  - Effective air emission controls are needed.
  - National workgroups are needed to address air issues.



# Needs and Challenges

- 6) Current analytical methods result in a low bias in PFAS results
- 7) Biosolids/Soil Guidance
  - What levels are protective of groundwater?
  - What levels are protective of food?
  - Need criteria to implement industrial discharge pre-treatment
- 8) PFAS reporting (Toxic Release Inventory) to identify where even small amounts of PFAS are used
- 9) Exposure pathways other than drinking water to PFAS and mitigation measures
- 10) PFAS in domestically produced and imported products
  - Release and exposure have not ended!
- 11) Cost effective disposal options for wastes



# Strategies to Reduce Exposure

- Assess the occurrence of PFAS in the environment
- Public notification & provision of treated/alternative water
- Develop regulations supported by science
  - Drinking water, surface water, biosolids & air
  - States need Federal leadership
  - Federal government needs resources/support
- **Address persistent chemicals**
  - Chemicals that stick around in the environment, bioaccumulate in living things & are potentially toxic
  - Address these in commerce & air/water regulations
    - Including restricting import of these compounds
  - **Cannot fix the PFAS problem at the end of the pipe or by sampling and regulating one chemical at a time**



# Strategies for Effective Community Engagement

- Provide up-to-date and transparent information from the beginning
- Do not constrain the science to simplify public messaging
- Be clear that new information can change current policies
- Provide all sampling results and project documents online in near real time
- Community Advisory Boards
- Hotlines, frequent press releases, community office hours, public meetings, web blog, & water treatment guidance
- Address natural/manmade contaminants & relative risk

