New Hampshire Public Health Response to PFAS Drinking Water Contamination

Pennsylvania PFAS Action Team Meeting

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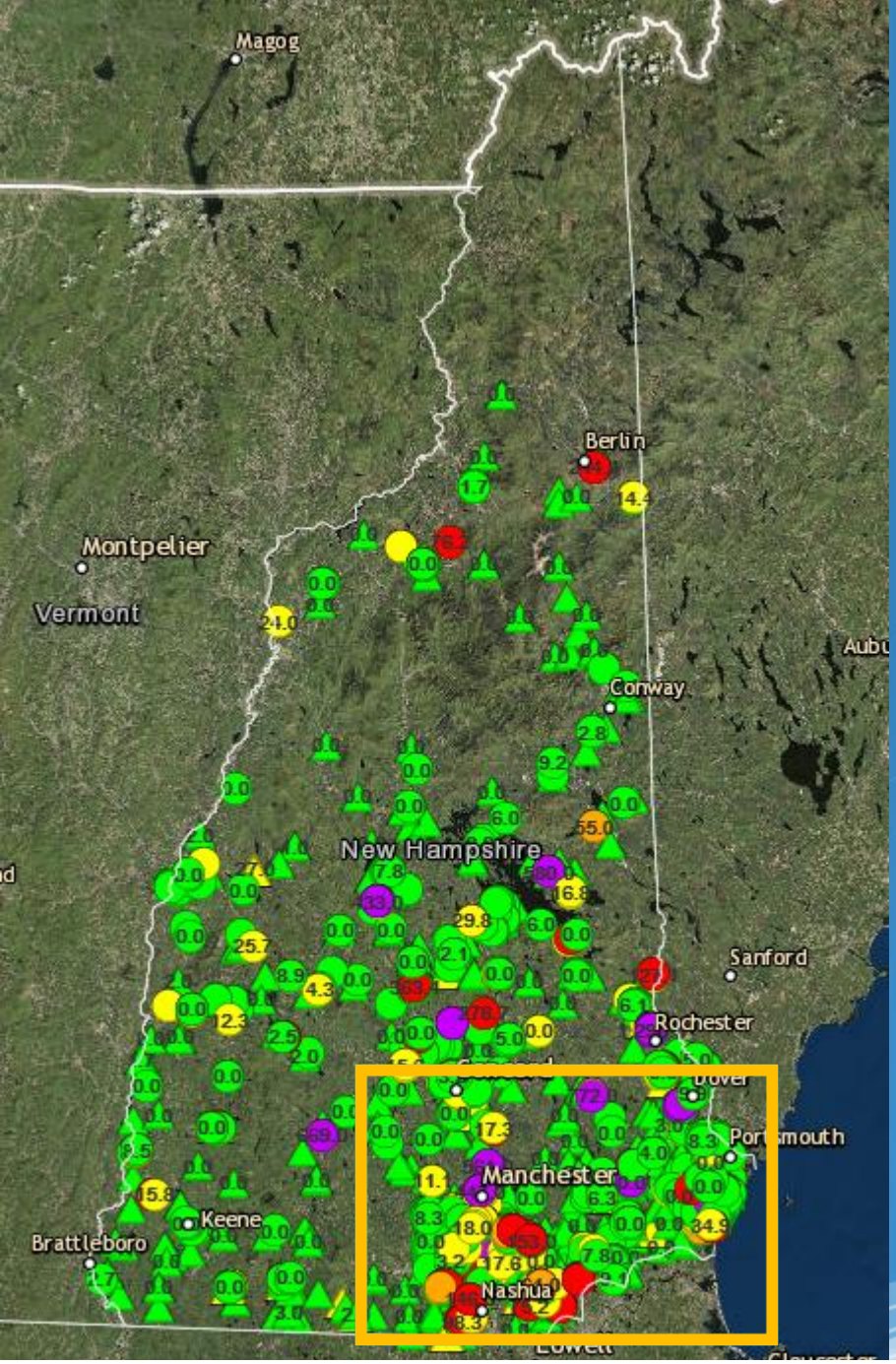
Multi-Agency/Partner Response

- NH DHHS
- NH DES
- Community Advocate Organizations:
  - Testing For Pease
  - Merrimack Citizens for Clean Water
- Town/City Officials
- State Legislators
- NH Medical Society
- U.S. Congressional Delegation
- CDC/ATSDR
- U.S. EPA
- DoD

Community Requests/Concerns

1. PFAS blood testing (biomonitoring)
2. Health study (learn how exposure might lead to adverse health outcomes)
   - Collecting Health Data
   - Health registry
   - Health Survey
3. Individual “medical monitoring” guidance

NH Department of Environmental Services (DES) PFAS Sampling Map



https://www4.des.state.nh.us/nh-pfas-investigation/

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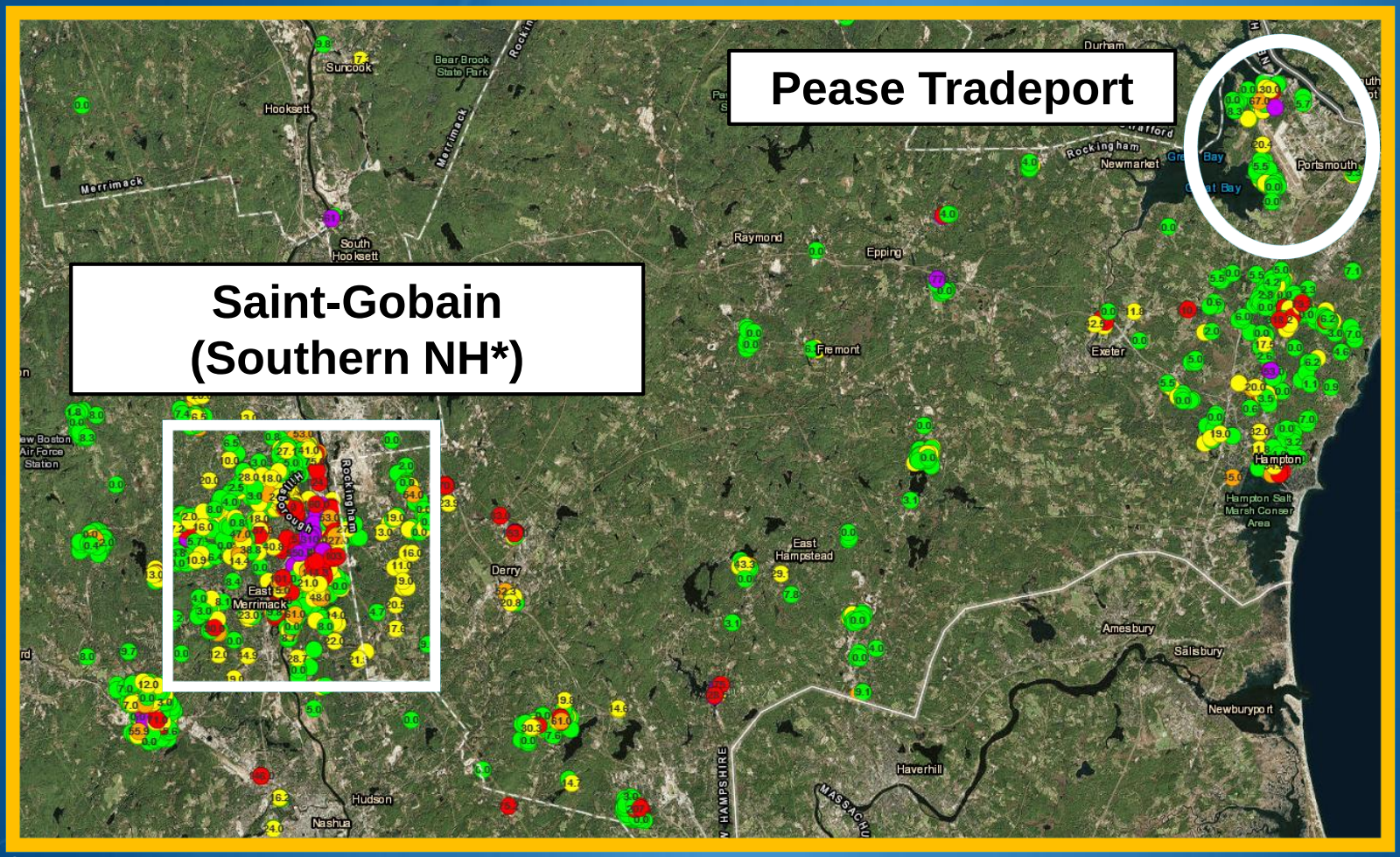

*Southern NH includes private well contamination and contamination of the Merrimack Village District (MVD) public water supply

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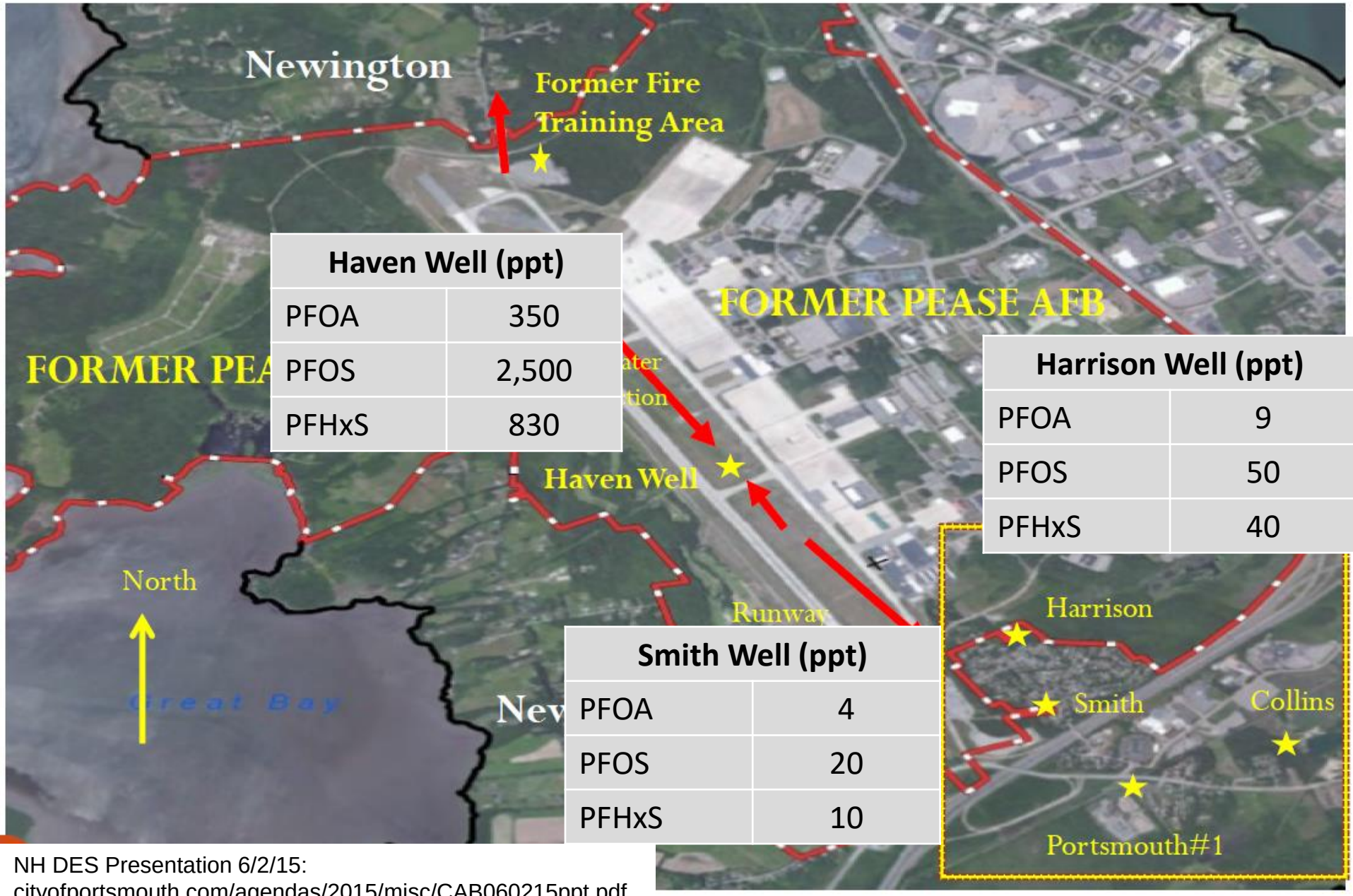
Areas of PFAS Contamination in NH

- Pease Tradeport (former Pease Air Force Base):
  - 1991: First base to be closed under the Base Realignment and Closure Act (BRAC)
  - Business Tradeport: employs ~9,500 individuals, has 2 childcare agencies
  - Public water supply (3 supply wells, blended)
  - Mainly PFOS, PFOA, PFHxS contamination in one well identified in 2014

Former Pease AFB

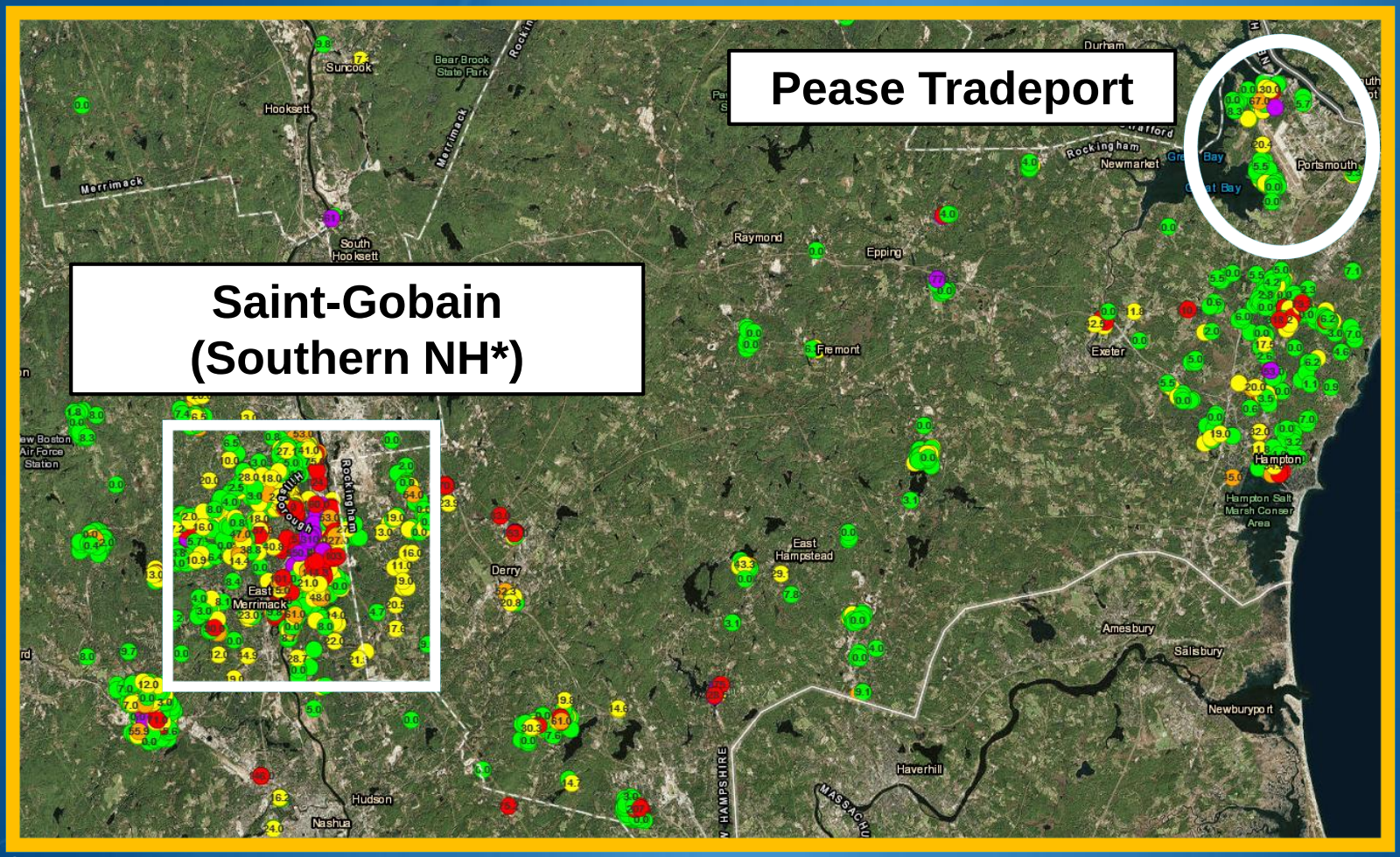


Haven Well (ppt)	
PFOA	350
PFOS	2,500
PFHxS	830

Harrison Well (ppt)	
PFOA	9
PFOS	50
PFHxS	40

Smith Well (ppt)	
PFOA	4
PFOS	20
PFHxS	10

NH DES Presentation 6/2/15:
cityofportsmouth.com/agendas/2015/misc/CAB060215ppt.pdf



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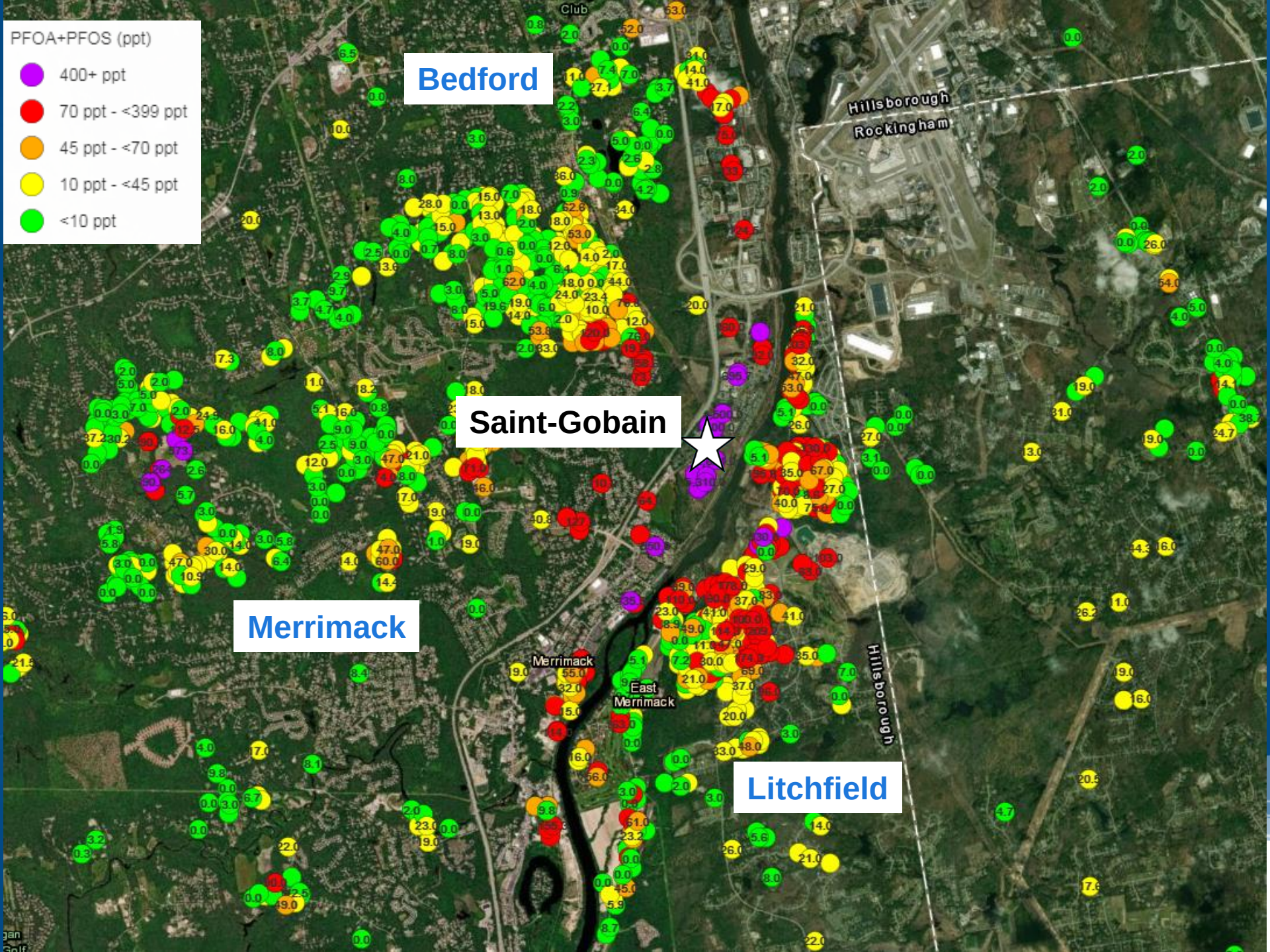
Areas of PFAS Contamination in NH

- Southern New Hampshire (SNH)
  - Private wells, mainly PFOA
  - Multiple towns
  - Multiple sources: **Saint-Gobain Performance Plastics**, Textiles Coated International (TCI), two former landfills
- Merrimack Village District (MVD) public water system
  - Public water supply to ~28,000 residents
  - Blend of 6 different wells
  - PFOA from Saint-Gobain emissions

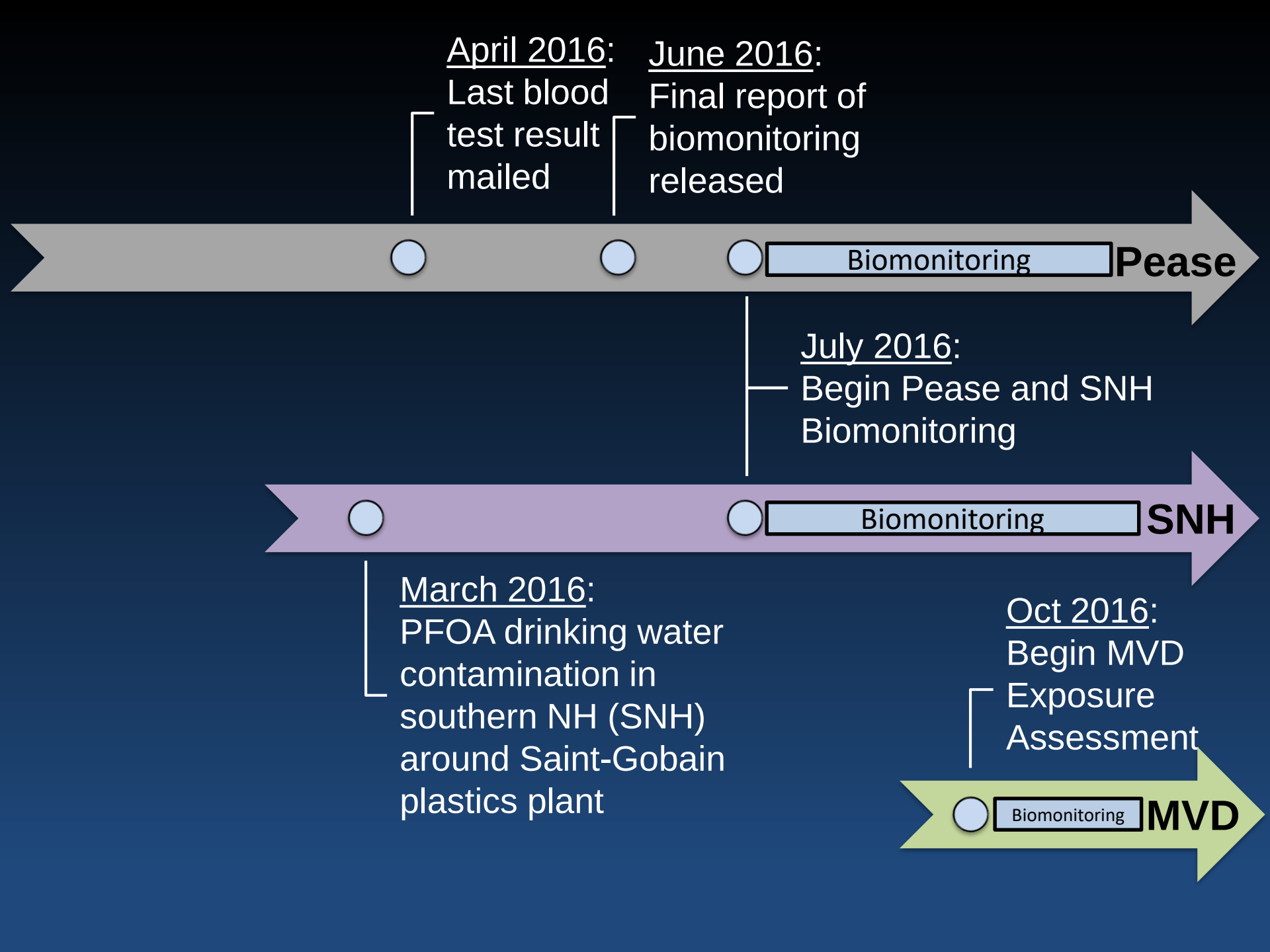
PFOA Concentration (ppt)					
MVD-2	**MVD-3**	**MVD-4 (offline)**	**MVD-5**	**MVD-7**	**MVD-8**
31	32	94	67	30	10

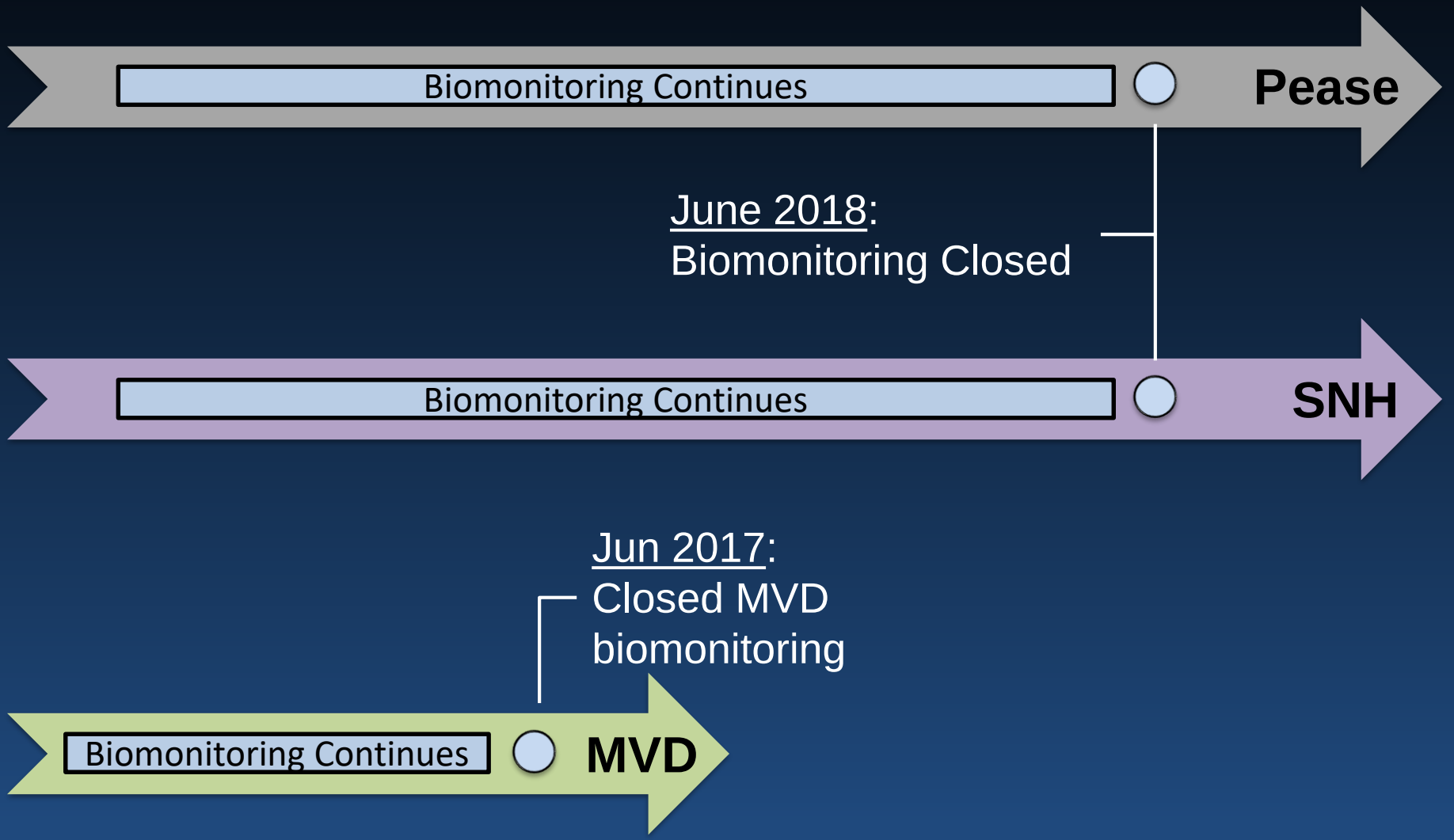

PFOA+PFOS (ppt)
400+ ppt
70 ppt - <399 ppt
45 ppt - <70 ppt
10 ppt - <45 ppt
<10 ppt
Bedford
Saint-Gobain
Merrimack
Litchfield
Hillsborough
Rockingham
Merrimack
East Merrimack
Hillsborough
Club

PFAS Blood Testing (Biomonitoring)

March 2015:

- Biomonitoring protocol for testing 50 adults & 50 children
- Community wanted anybody exposed to be offered testing
- Protocol modified to test anybody who consumed water “at any time and for any duration”

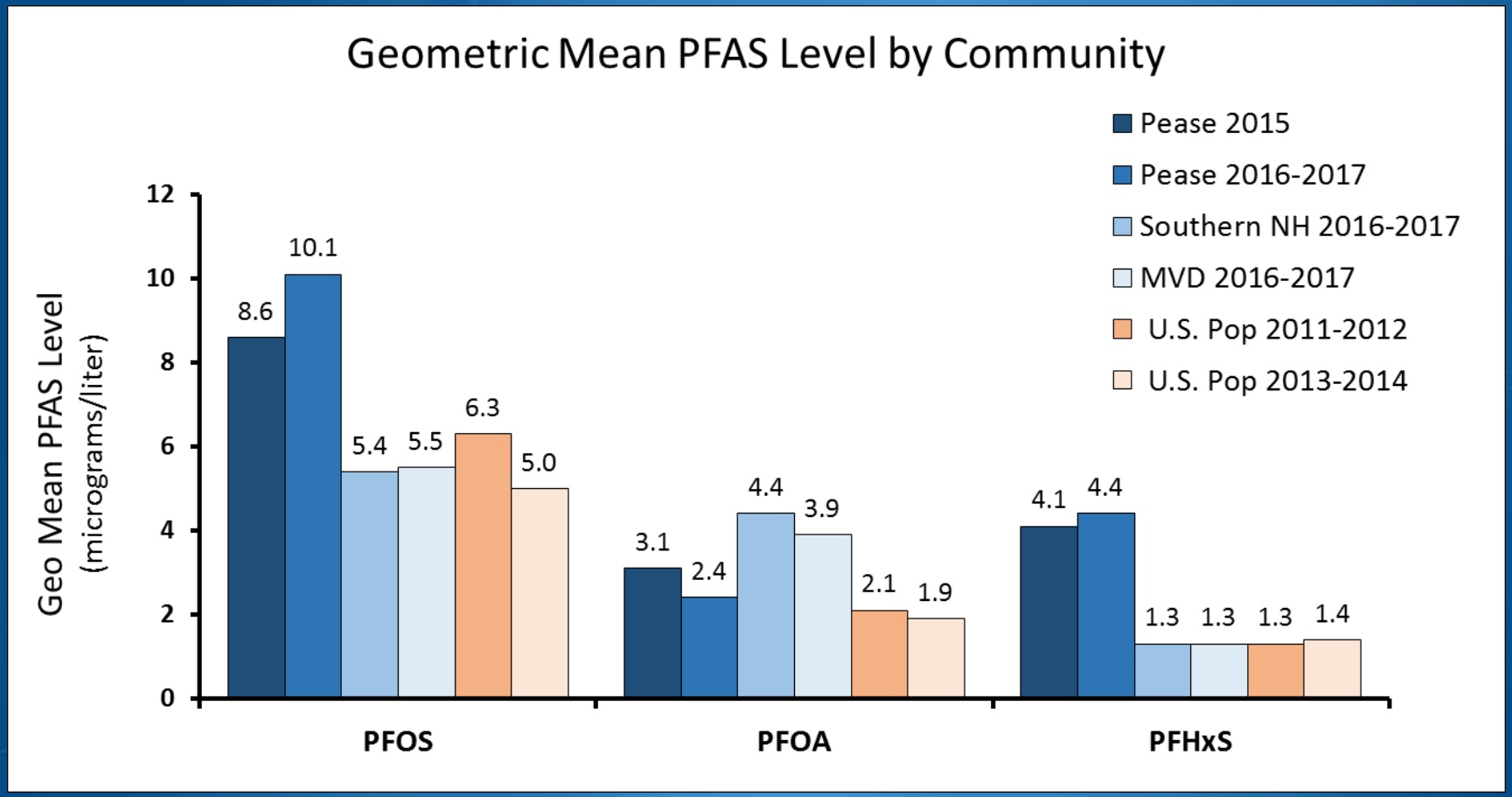

April 2016:
Last blood test result mailed
June 2016:
Final report of biomonitoring released
Biomonitoring
Pease
July 2016:
Begin Pease and SNH Biomonitoring
Biomonitoring
SNH
March 2016:
PFOA drinking water contamination in southern NH (SNH) around Saint-Gobain plastics plant
Oct 2016:
Begin MVD Exposure Assessment
Biomonitoring
MVD


Biomonitoring Continues
Pease
June 2018:
Biomonitoring Closed
Biomonitoring Continues
SNH
Jun 2017:
Closed MVD
biomonitoring
Biomonitoring Continues
MVD

Number of Individuals Tested for PFAS by Region (through 8/23/17)

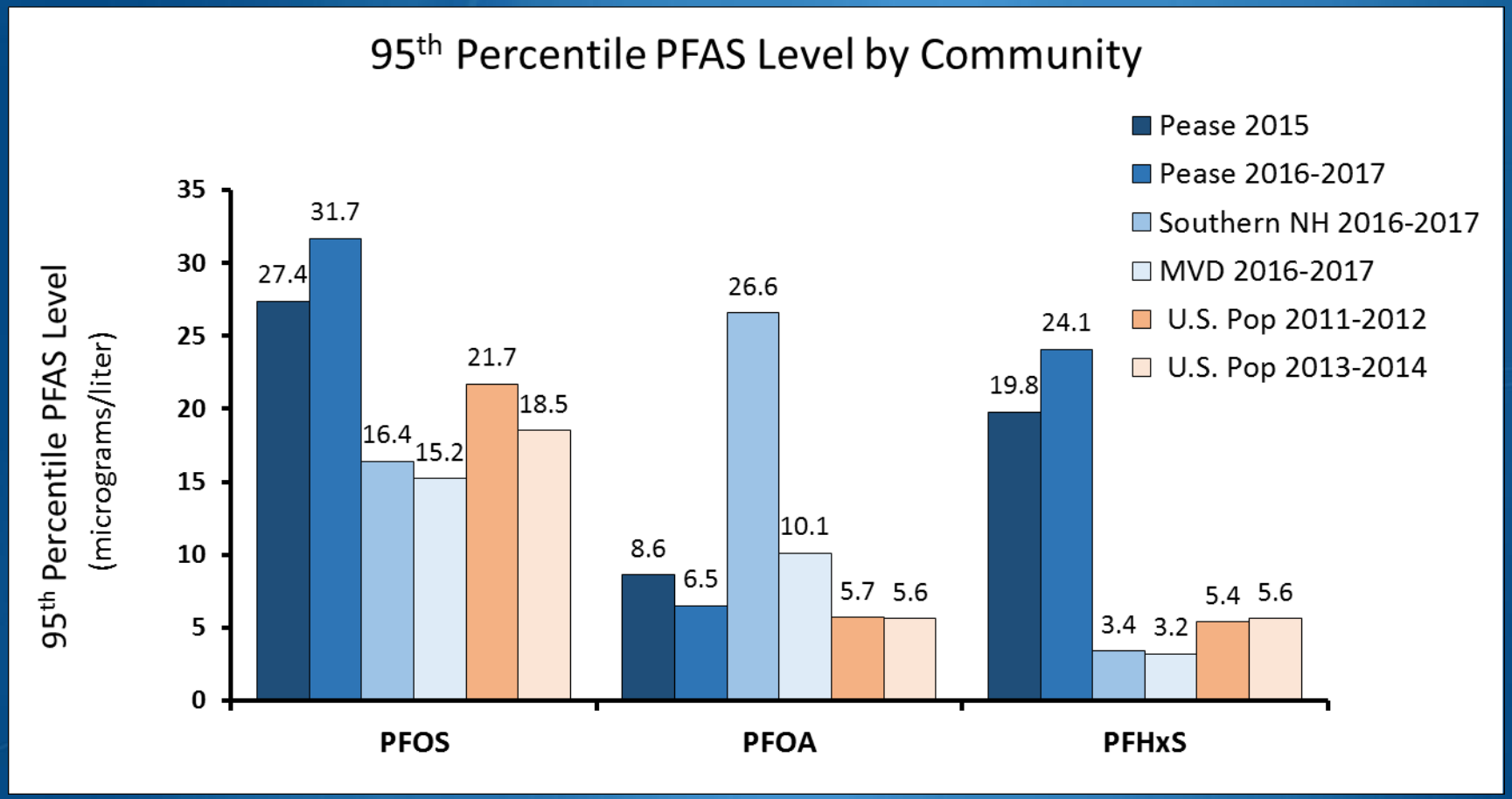
Location	Year Tested	Number Tested
Pease Tradeport	2015	1,578
	2016-2017	258
Southern NH (SNH) Communities (Private Drinking Water Wells)	2016-2017	219
Merrimack Village District (MVD) Community Exposure Assessment	2016-2017	217
Total		**2,272**

Comparing Geometric Mean PFAS Levels



Data through July 2017

Comparing 95th Percentile PFAS Levels



Data through July 2017

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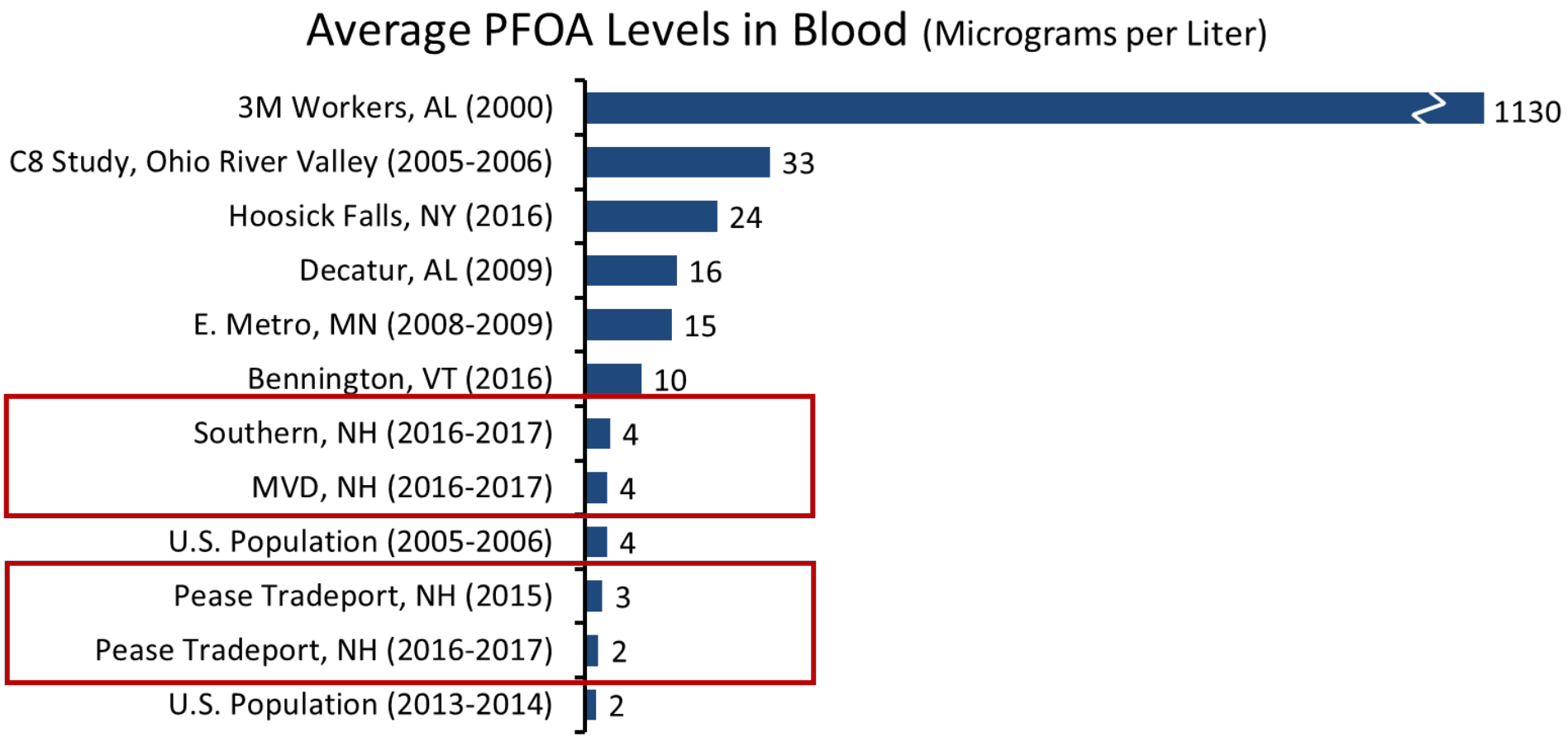
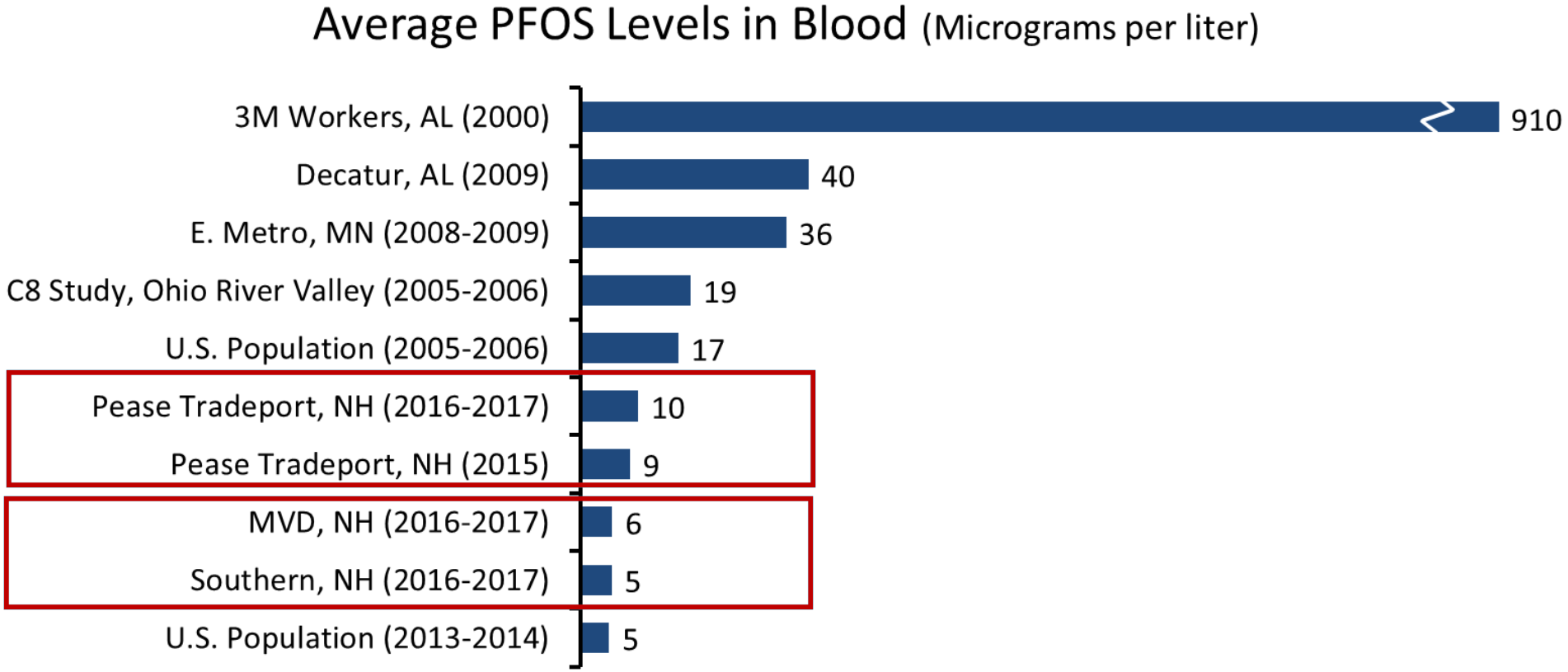
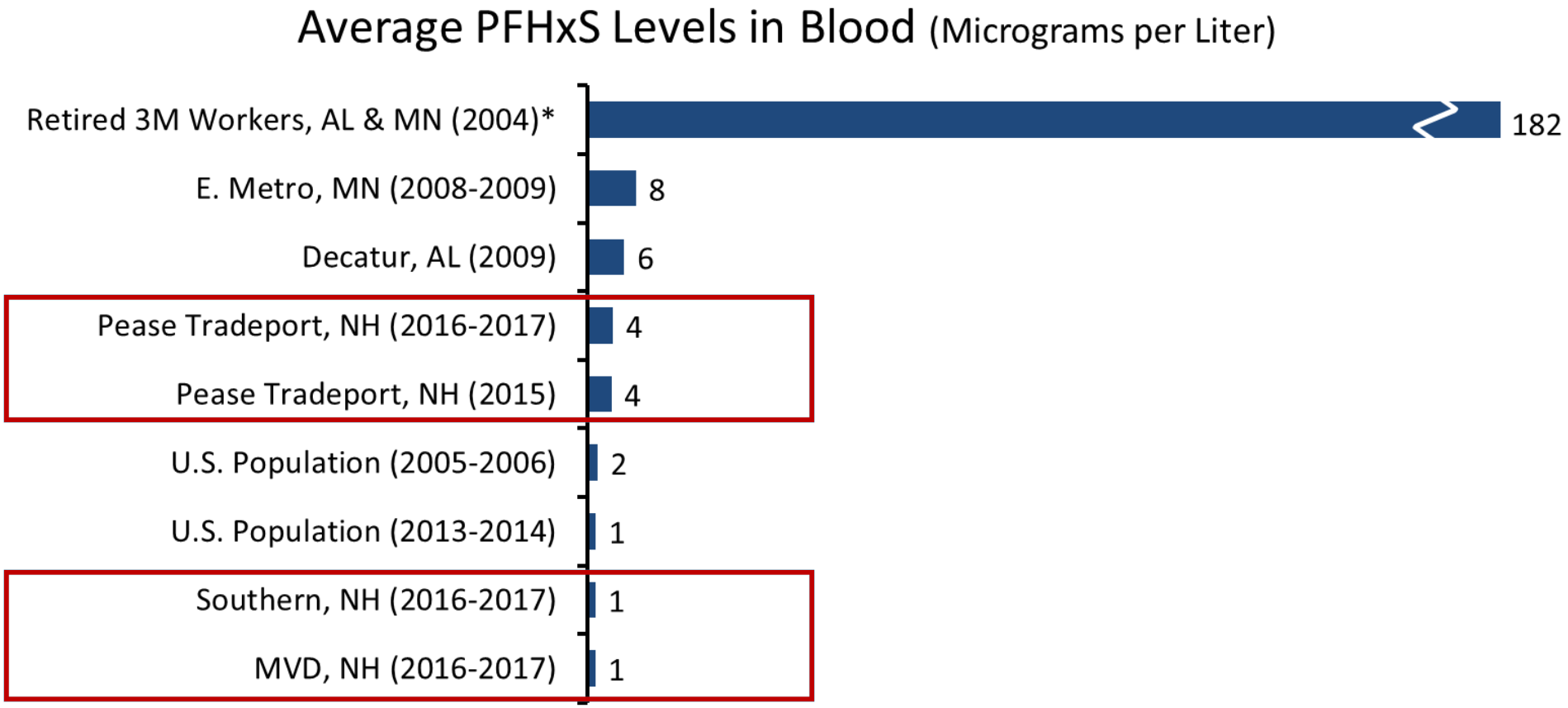
Average PFOA Blood Levels Compared to Other Exposed Communities



Average PFOS Blood Levels Compared to Other Exposed Communities



Average PFHS Blood Levels Compared to Other Exposed Communities



PFAS Biomonitoring Take-Aways

- People want more information about their individual levels of exposure
- Interpretation of PFAS blood test results is difficult
- A PFAS blood test has limited use by healthcare providers to guide healthcare decisions
- A blood test **can** tell you how much PFAS is in your body at the time of the test
- A PFAS blood test **cannot**:
  - Tell you where or how you were exposed to PFAS
  - Tell you what, if any, health problems might occur, or have occurred, because of PFAS exposure

Health Study

Questions and Concerns Underlying Request for a Health Study

- Desire that a community's exposure be used to further the science and understanding of potential health impacts (i.e. a bad situation to be used for a positive purpose)
- Individuals want to understand why they might have existing health problems
- Understand the future risk for health problems

More Health Study Is Needed, but…

- Limited sample size in NH restrictive
- NH DHHS lacked the resources to carry out a health study on PFAS
- We asked ATSDR to look at conducting a national PFAS study including NH populations

ATSDR's Pilot Health Study

- ATSDR formed a Community Assistance Panel (CAP) to perform a health study feasibility assessment on Pease: https://www.atsdr.cdc.gov/sites/pease/documents/Pease_Feasibility_Assessment_November-2017_508.pdf
- National funding was secured for a pilot "proof-of-concept" study to be conducted on the Pease Tradeport: https://www.federalregister.gov/documents/2018/08/27/2018-18446/proposed-data-collection-submitted-for-public-comment-and-recommendations
- Goal is to secure additional funding to expand to a national study (not just at DoD contamination sites)

Health Care Provider Medical Monitoring

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Individuals Want to Know How Their Health Care Provider Should Monitor Their Health

- We developed our own health care provider recommendations: https://www.dhhs.nh.gov/dphs/pfcs/providers.htm
  - We recommended routine health screenings and symptom monitoring
  - No specific laboratory testing explicitly recommended aside from normal health screenings
  - Encouraged providers to engage and discuss with patients their concerns to develop a plan for how to monitor health
- Community advocates wanted DHHS to promote the C-8 Medical Monitoring Protocol: http://www.c-8medicalmonitoringprogram.com

Resources and Partnerships Developed for Health Care Providers

- ATSDR developed provider guidance and a CME webinar: https://www.atsdr.cdc.gov/pfas/
- Region 1 Pediatric Environmental Health Specialty Unit (PEHSU): provided patient consultation services
- Northern New England Poison Center (NNEPC): real-time clinician phone consultation
- NH Medical Society: helped convene a panel discussion with affected community members and providers

Summary

- Biomonitoring is resource intensive and results are difficult to interpret or use to predict health outcomes
- Biomonitoring should be performed in a scientifically based process (e.g. using ATSDR's PEATT)
- National coordination on a health study is important and ongoing starting with Pease Tradeport population
- Public health agencies need to be prepared to engage health care providers and respond to concerns about how exposed individuals can work with their healthcare providers to more proactively monitor health

Thank You

Questions?