



Lakeland/Lakeland Shores Fall 2018 Private Well Testing

Minnesota Department of Health (MDH)
Minnesota Pollution Control Agency (MPCA)

September 18, 2018

Fall 2018 Private Well Sampling Event

Volatile Organic Compounds (VOCs)

Perfluoroalkyl Substances (PFAS)

The city water has been tested and does **NOT** contain PFAS or VOCs.





VOC Private Well Sampling

- MPCA conducts well sampling and provides alternate drinking water supply to private well owners where VOCs exceed MDH guidelines
- Additional well sampling is completed as a result of MDH lowering TCE health based value (HBV) from 5 ppb to 0.4 ppb
- MPCA plans to resample private wells in 2018 to ensure safe drinking water for residents
- MPCA will provide alternate drinking water supply for any wells exceeding the health risk limit

PFAS (formerly “PFCs”)

- Large class (3000+) of surfactants with unique chemical properties used since 1940s to make products that resist heat, stains, water, oil and grease; production increased rapidly in 1970s.
- Some PFAS do not degrade in the environment and can only be destroyed at very high temperatures.
- Some PFAS accumulate in the bodies of humans and wildlife and other PFAS may accumulate in plants.



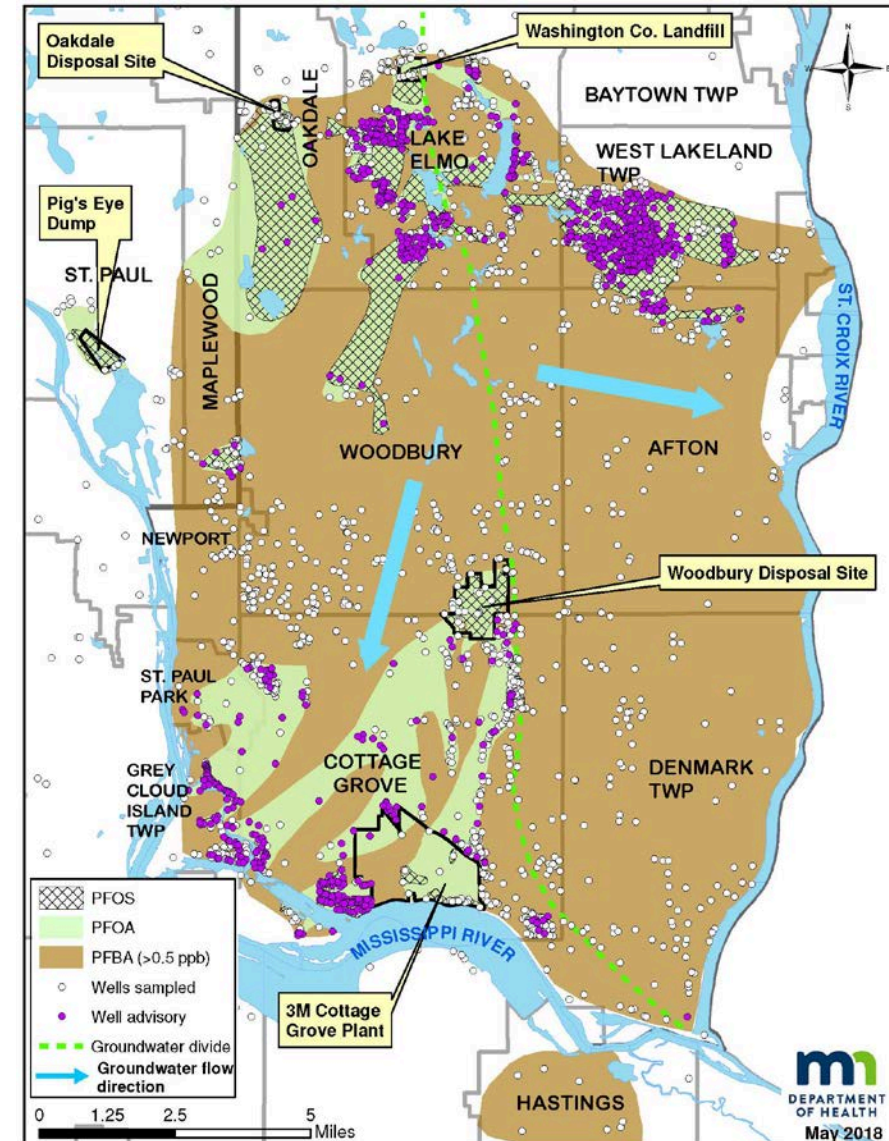
PFAS and Health

- The PFAS concentrations found in groundwater in most of Washington County are not likely to pose any immediate health risk. The main concern is for long-term (10+ yrs) exposure of women and girls who may pass the accumulated levels of PFOS and/or PFOA to their babies during pregnancy & breastfeeding
- The main concern is for long-term, daily ingestion of water through drinking and cooking
- PFAS are not well adsorbed through the skin – so swimming, showering, bathing, washing clothes are not an important way that we are exposed.
- PFAS are not volatile – they don't evaporate into the air from water – so there isn't a concern for inhaling PFAS (like there is with some VOCs)



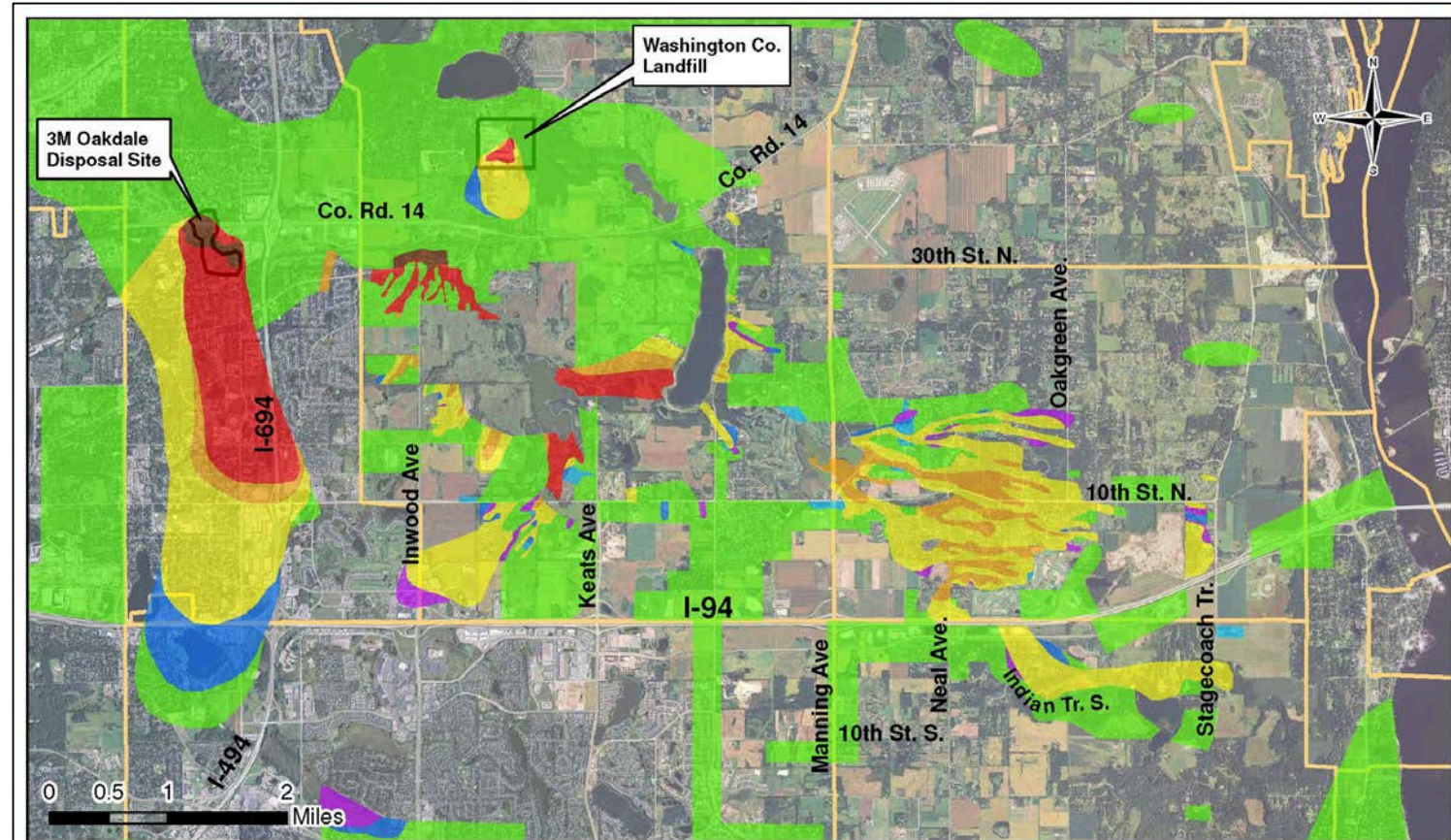
Where Are PFAS Found in Washington County

- PFAS wastes were disposed of at the 3M-Cottage Grove plant and 3 off-site locations:
 - Oakdale disposal site
 - Washington County landfill
 - Woodbury disposal site
- Areas of greatest concern are those where PFOS and/or PFOA are present
- Most of the PFAS entered the groundwater and flows with it toward the major discharge points – Mississippi & St. Croix Rivers
- Some of the PFAS got into a surface water / stormwater drainage system that carried them into West Lakeland Township
- Some of the PFAS-contaminated groundwater appears to be following a buried bedrock valley into north Afton



PFAS Investigation

- Samples collected this summer in northeast Afton suggest the area of PFOS and PFOA contamination may extend into Lakeland and Lakeland Shores
- As PFAS travel in the groundwater they become diluted, so it is not clear what levels, if any, might be detected in Lakeland / Lakeland Shores.
- Previous sampling of selected Lakeland wells near I-94 did not detect PFAS



PFOS - All Aquifers

PFOS greater than 1.35ppb (>50x HBV)	PFOS 0.021-0.027ppb (75-100% HBV)
PFOS 0.271-1.35ppb (10-50x HBV)	PFOS 0.0136-0.02ppb (50-75% HBV)
PFOS 0.136-0.27ppb (5-10x HBV)	PFOS 0.004-0.0135ppb (<50% HBV)
PFOS 0.028-0.135ppb (1-5x HBV)	PFOS not detected

Phone: 651-201-4897
or 1-800-657-3908

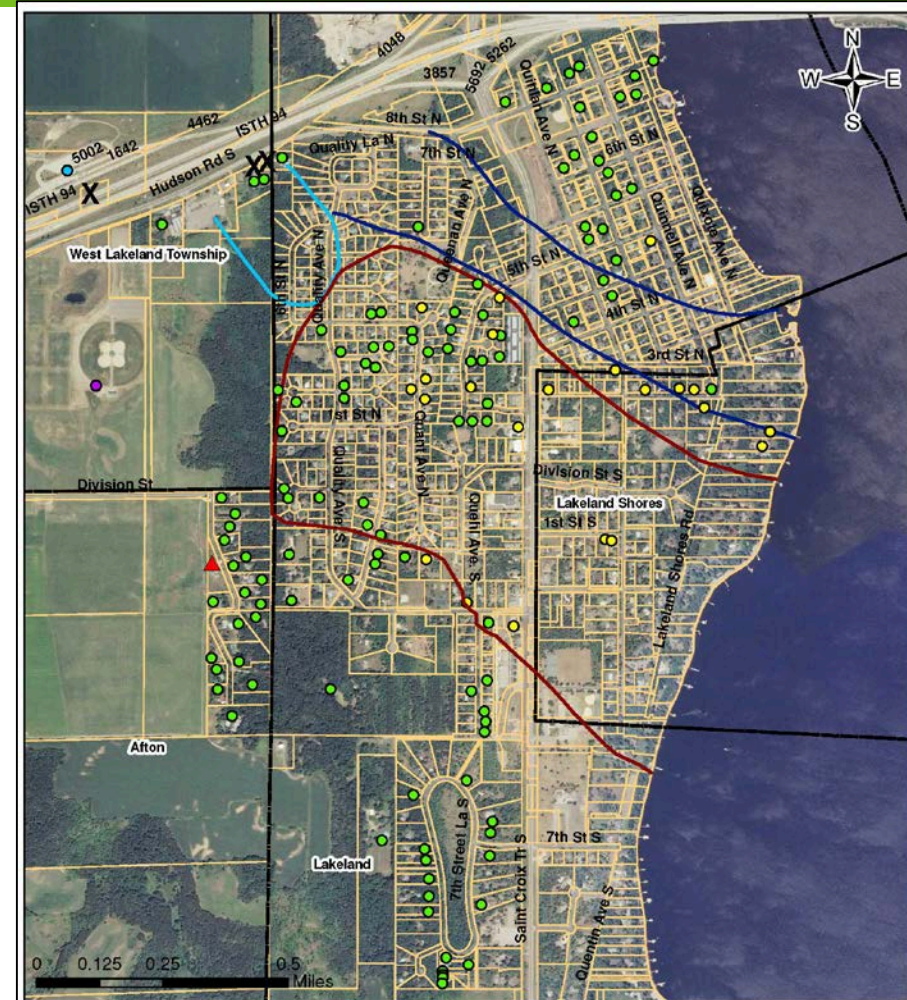
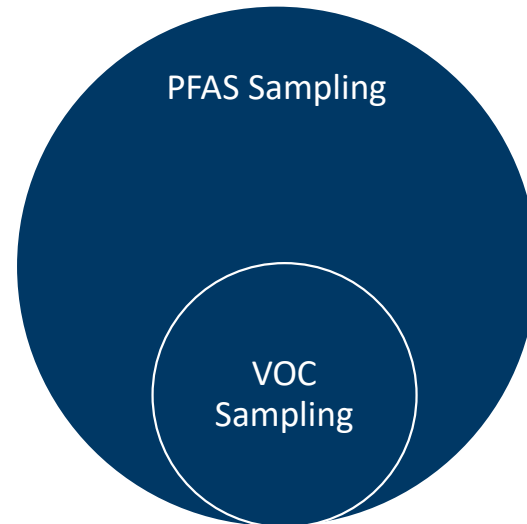
MDH Health Based Value (HBV) for PFOS is 0.027 parts per billion (ppb; or 27 parts per trillion)

NOTES: Map combines data from all aquifers, actual concentrations in any area may vary; blank spaces indicate no sample data

6/26/2018

PFAS Private Well Sampling

- MPCA and MDH sent letters to 106 property owners to request permission to sample
 - Properties identified as NOT being connected to city water
 - North and west parts of Lakeland/Lakeland Shores - upgradient
- All will be sampled for PFAS; 22 will also be sampled for VOCs
- If PFAS detected, will expand sampling effort & continue to monitor any wells with detections
- Will also sample on request, but prioritized based on results



- Well to be sampled for PFAS
- Well to be sampled for PFAS + VOCs
- Well advisory issued
- Refrigerant plume
- PFOS/PFOA detected below guidance values
- Ray's Truck Stop plume
- No PFOS/PFOA detected
- Chlorinated VOC plume
- Sealed well

PFAS Private Well Sampling Process

- MPCA/MDH coordination for sampling of private drinking water wells
- Sampling done by MPCA Contractor – West Central Environmental Consultants
- Sample analysis done by MDH Environmental Lab (takes ~4 weeks)
- If MDH well advisory issued – MPCA to provide bottled water/carbon treatment
 - Bottled water(Premium Waters) or Point of Use Filter(PUR Filter) until whole house filter installed
 - Whole House Granular Activated Carbon (GAC) – Culligan
 - Access Agreement
 - Change-out filters once per year
- All costs for sampling/sample analysis/treatment covered by MPCA
- Potential reimbursement of costs for connection to municipal drinking water supply



MDH/MPCA Contact Information

- MPCA Project Manager – Liz Kaufenberg, elizabeth.Kaufenberg@state.mn.us, 651-757-2481
- MPCA GAC installation – Tim Lockrem, timothy.lockrem@state.mn.us, 651-757- 2686
- MDH Sampling coordinator – Ginny Yingling, virginia.Yingling@state.mn.us, 651-201-4930





Thank you