

Presentation to National Academies Committee on Guidance on PFAS Testing and Health Outcomes

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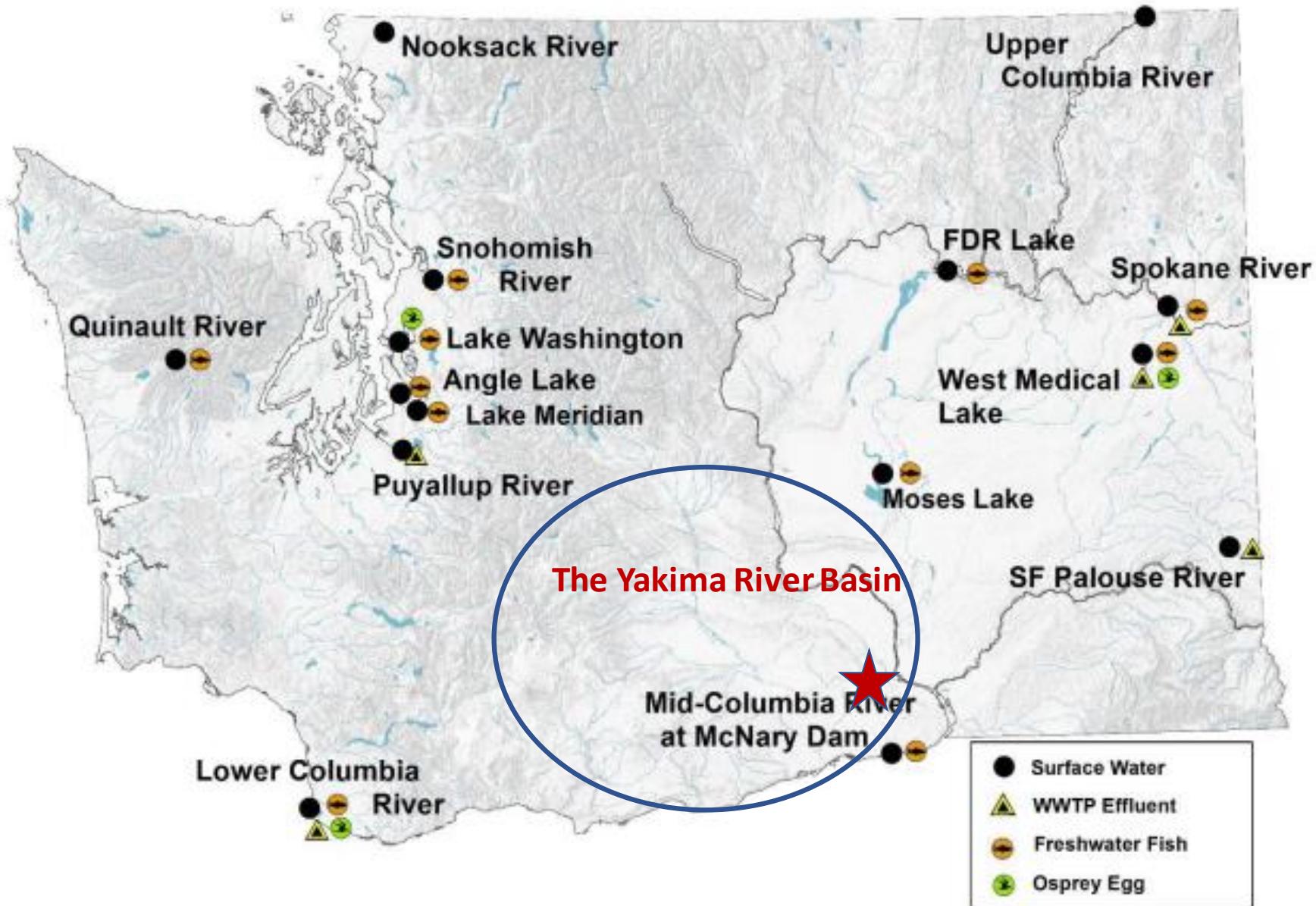
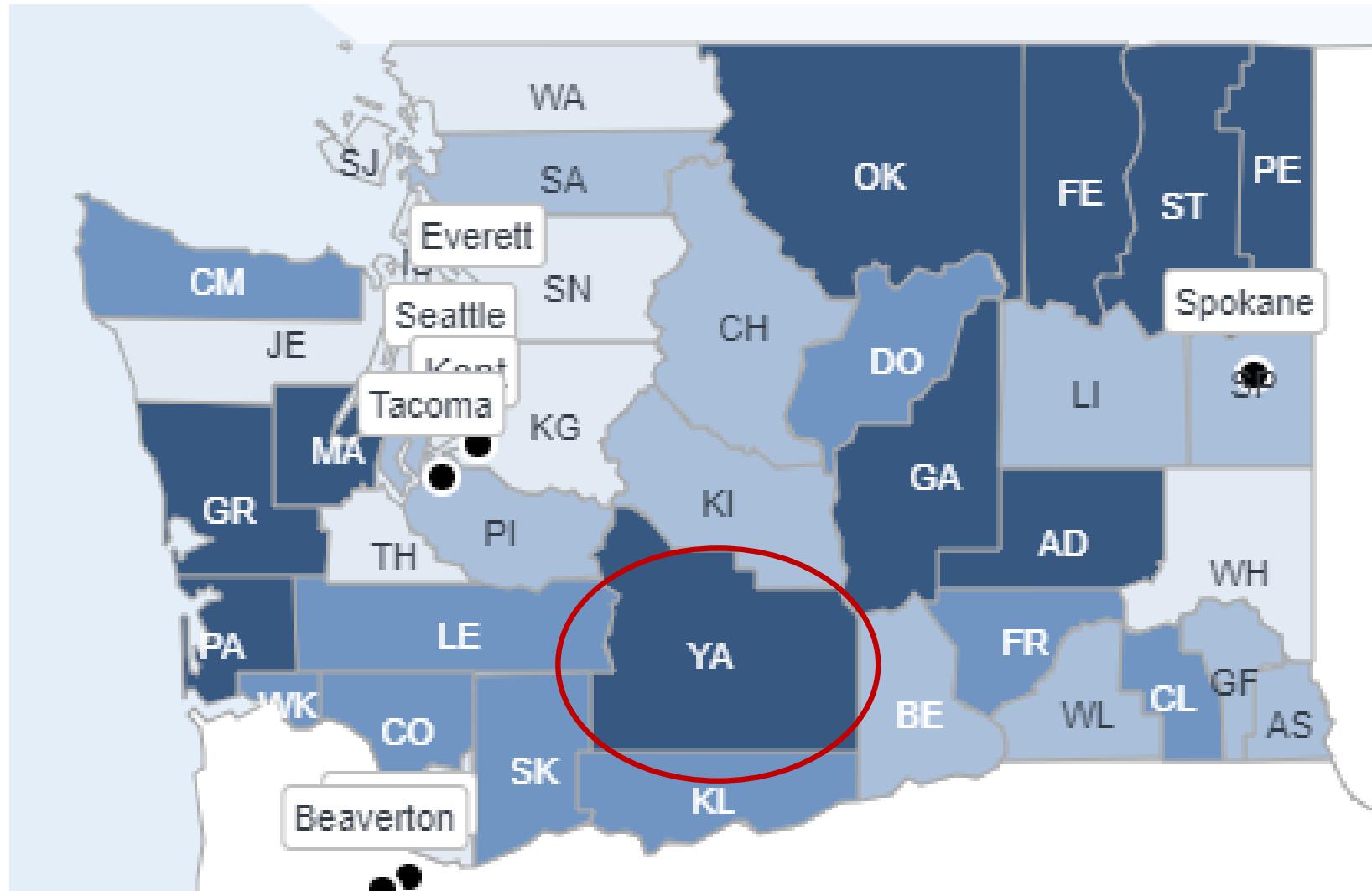


Figure 1. Study Locations for 2016 Study.

Health Outcomes in Yakima County

<https://www.countyhealthrankings.org/app/washington/2021/rankings/factors/overall>



Major Health Problems in Yakima County from the WA Tracking Network

Asthma Hospitalizations Yakima County 9.04 per 10,000

WA State 6.22 per 10,000

MI Hospitalizations Yakima County 34.27 per 10,000

WA State 24.27 per 10,000

Low Birth Weight Yakima County 2.28% of singleton births

WA State 2.14% of singleton births

All Cancers Incidence Yakima County 406.03 per 100,000

WA State 493.84 per 100,000

Identified effects from PFAS exposure

Increased cholesterol. Cardiovascular effects.

Liver toxicity

Immune toxicity

Developmental toxicity. Low birth weight

Reproductive problems. Hormone disruption

Thyroid problems

Cancer

| | CV Effects Increased Cholesterol | Liver Toxicity | Immune Toxicity | Develop. Toxicity Low Birth Wt. | Reproductive Toxicity Hormone Disruption | Thyroid Disease | Cancer |
|-----------------------------------|-------------------------------------|----------------|-----------------|------------------------------------|---|-----------------|--------|
| PFOS | X | X | X | X | X | X | X |
| PFOA | X | X | X | X | X | X | X |
| PFNA | X | X | X | X | X | | |
| PFDA | X | X | X | X | X | | |
| PFHxS | | X | X | | | X | |
| Air Pollution | | | | | | | |
| Fine Particulate | X | | | X | X | | X |
| VOCs | | | | | | | |
| Benzene | | | X | X | | | X |
| Formaldehyde | | | | | | | X |
| Naphthalene | | X | | | | | X |
| Toluene | | | | X | | | |
| Phenol | | X | | X | X | | |
| Nitrates in H₂O | | | | X | | X | X |
| PBTs | | | | | | | |
| Dioxins | | | X | | | | X |
| Furans | | X | X | | | | |
| Pesticides | | | | | | | |
| Atrazine | | | | X | X | | |
| Chlorpyrifos | | | | X | | | |
| DDT | | X | | | X | X | X |
| Aldrin/Dieldrin | | | | | | X | X |

What potential health effects of PFAS exposure are you seeing in your community?

It is hard to tell, because the LYV has so many adverse health effects due to multiple factors

Worst air quality in WA State

Water pollution with some of the highest nitrate readings in the nation

Poverty, pesticides, PBT's such as dioxins and furans

What is the value to your community to testing individual people for PFAS exposure right now?

Surveys tell us that people are most concerned about air pollution, water pollution and pesticides . . In addition

We have the highest homicide rate in Washington State

3% of Washington's population live in Yakima County but we have 8% of COVID 19 deaths

The homeless rate in Yakima County is 1 in 400

We are about 50 miles west of the Hanford Nuclear Waste Clean-up site.

Does the value
of getting
tested for PFAS
exposure
depend on how
much scientific
evidence there
is linking
exposure to
health effects?

Scientific evidence would help if people were informed and understood basic epidemiology . . . But

The Yakima Health District does not address PFAS.

The YHD also does not acknowledge dangers from water pollution and air pollution.

Public health in Yakima County is under the control of three commissioners who seem to think that election to public office gives them expertise on health.

Sewage Sludge 2020 Overlooking LYV



What challenges do you think health professionals face when providing advice on PFAS exposures?

Many patients do not understand epidemiology and risk assessment

Poor people often live day to day. Thinking about illness in the years to come seems unrealistic

Clinicians receive no support from the local health district regarding PFAS

We are conditioned to believe that it is not real if it does not touch us personally.

For what specific health situation would you like this report to provide advice?

Should address cumulative impacts when rural people are exposed to PFAS plus other dangers.

Should address the impact on air quality and water quality when sewage sludge/biosolid is applied to cropland.

Should address the difference in how officials communicate with mainstream populations and with marginalized communities.

It would be good to have accurate information available in Spanish.

What routes of exposure do people in your community think are most important?

I do not hear people in my community talking about PFAS

The most likely route of exposure is water, due to leaching from cropland and due to fire fighting activity at the Yakima Training Center

Because 17% of the sewage sludge/biosolids from King County is applied to LYV cropland, biosolid application is the most likely driver of PFAS water contamination.

PFAS in air has simply not been studied in Washington

Recommendations

Inform clinicians through professional organizations: APHA, AMA, ANA.

Support a biomonitoring/community health survey. Cost is about \$1,000 per person.

Test fish everywhere. We are fish eaters.

Support a moratorium on spreading sewage sludge/biosolids on cropland.



Thank You For Listening