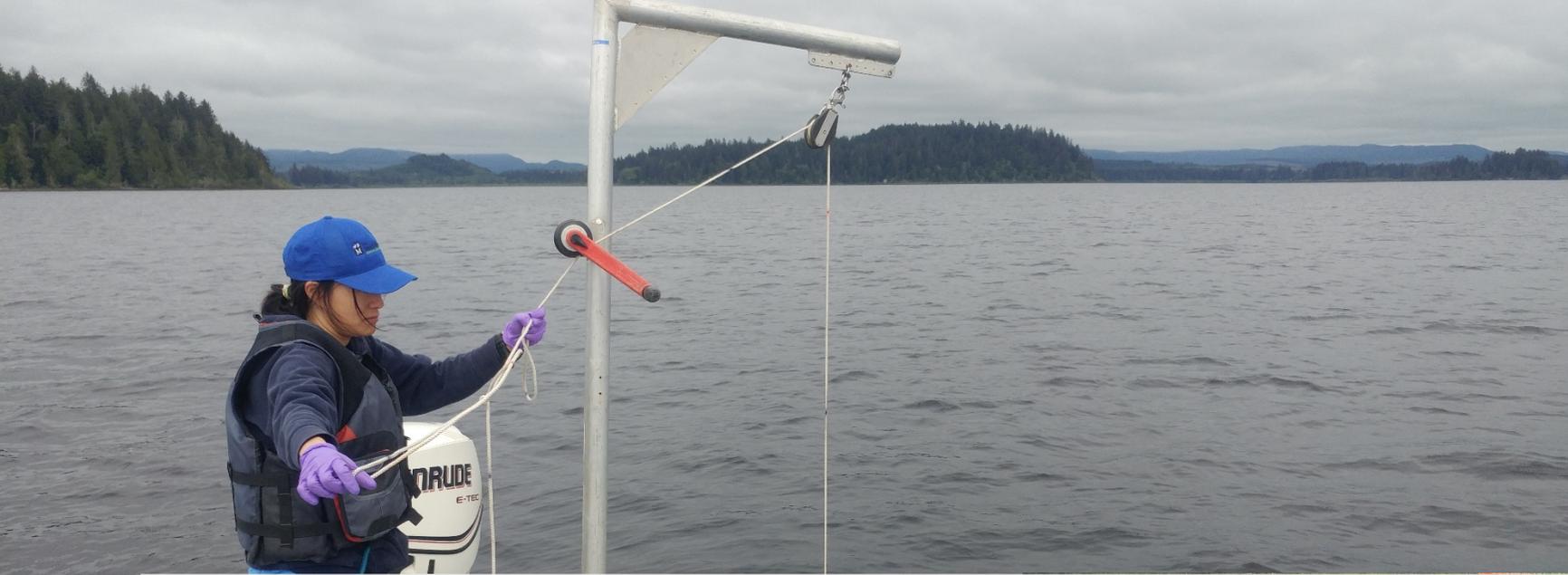




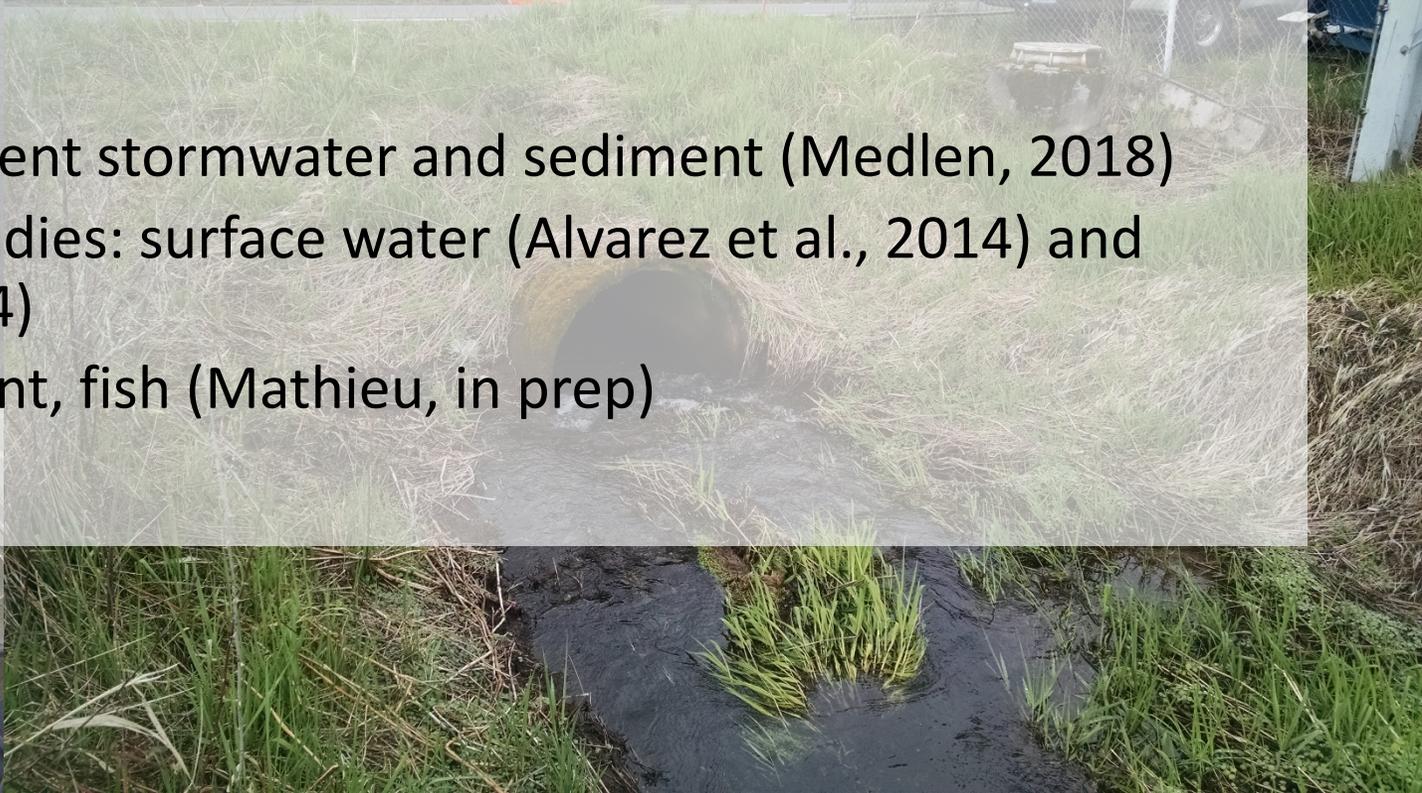
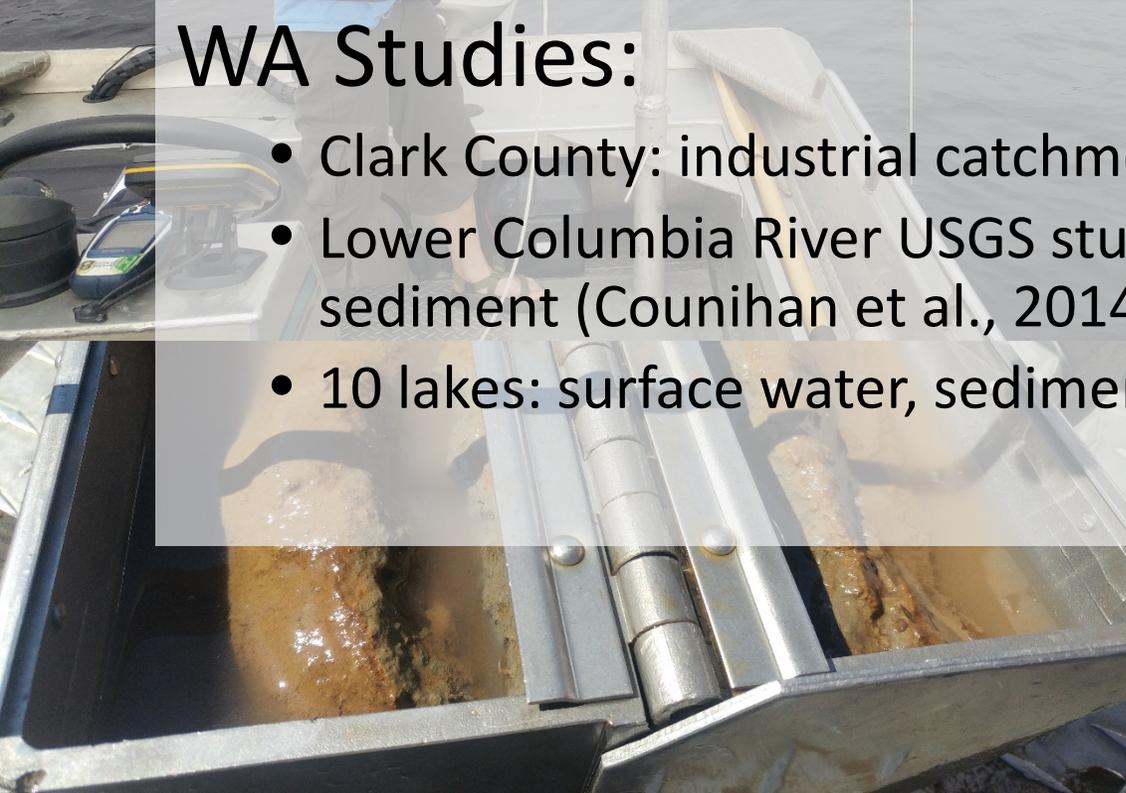
# WA Environmental Sampling Results

Callie Mathieu, Environmental Assessment Program, WA Dept. of Ecology

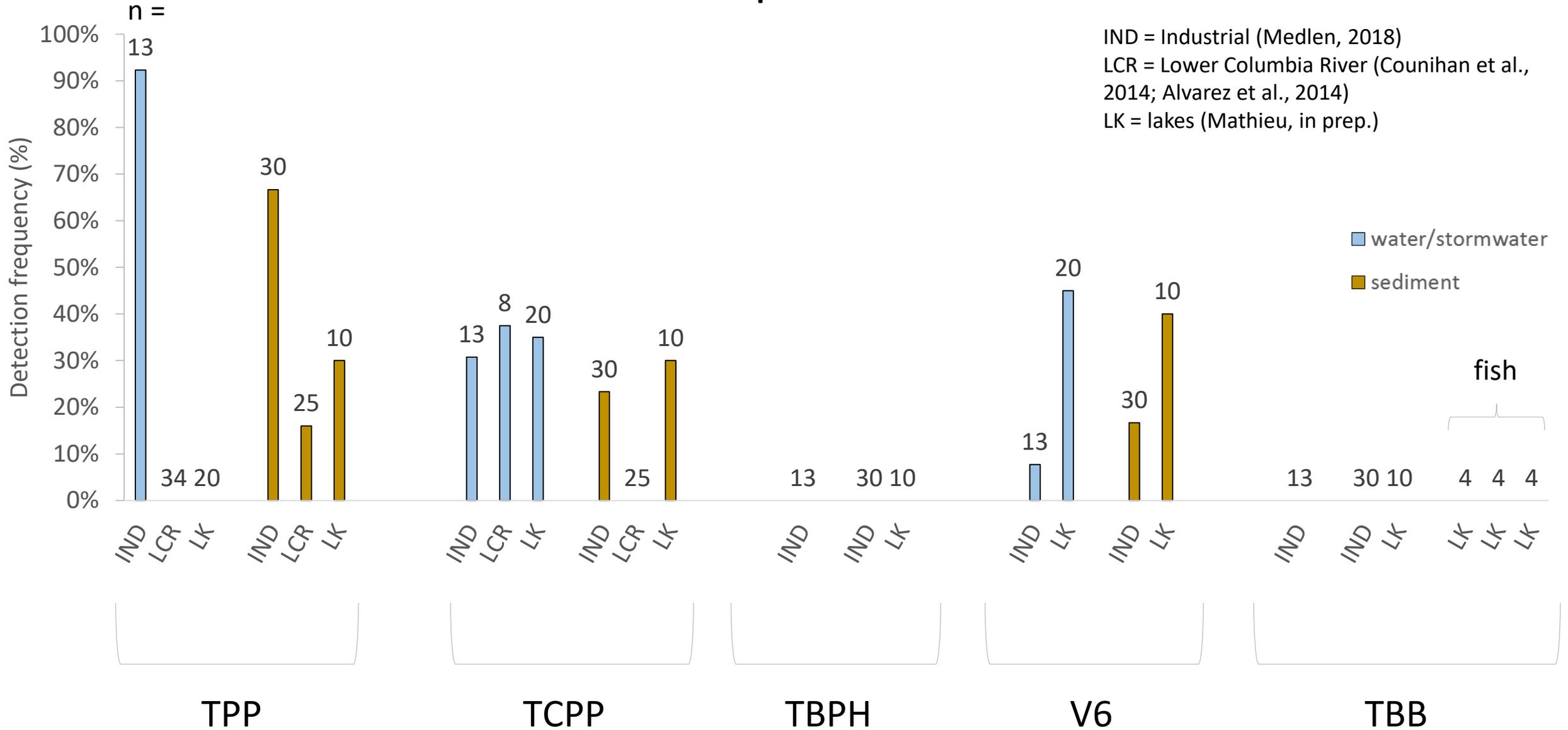


## WA Studies:

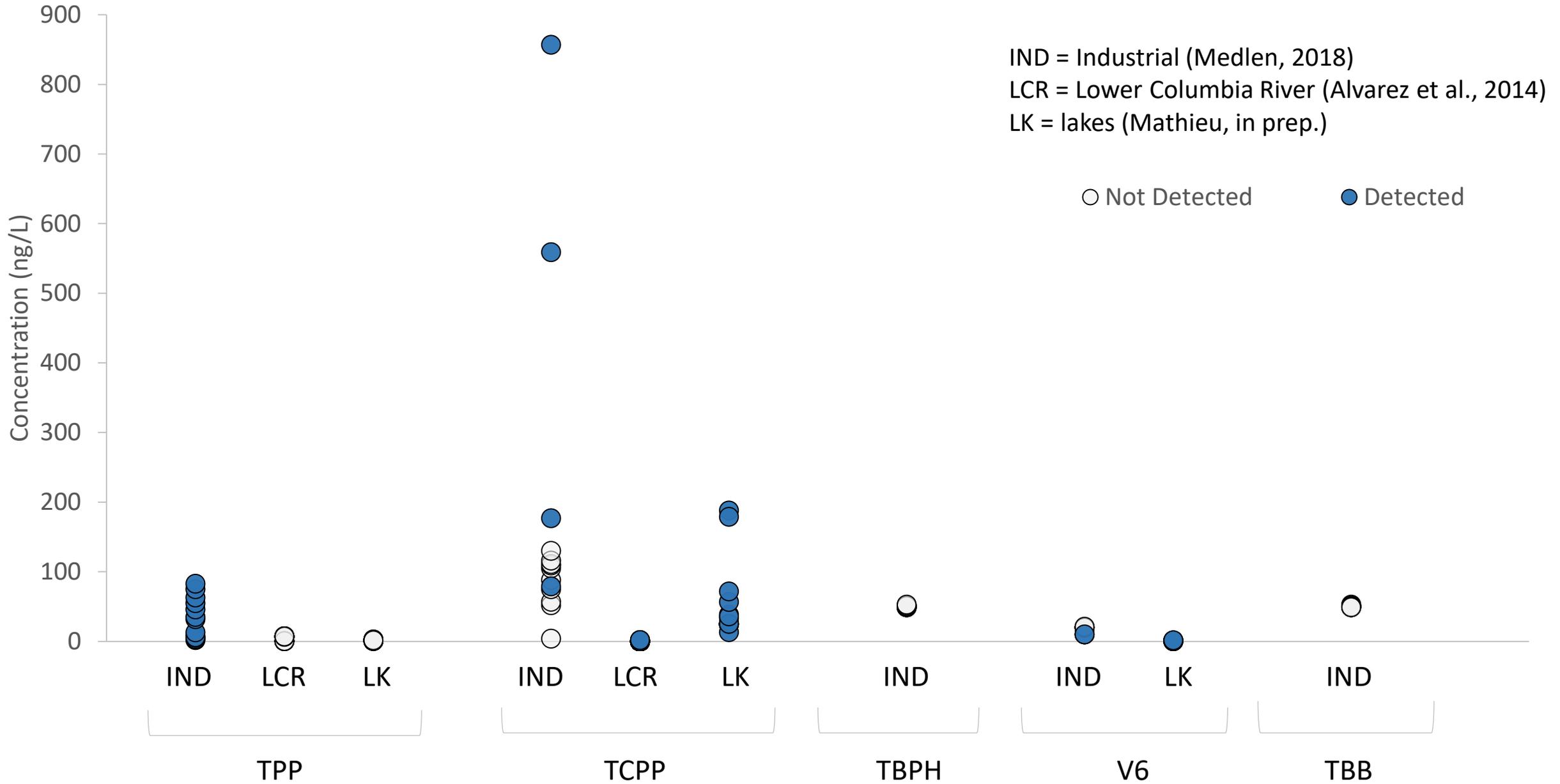
- Clark County: industrial catchment stormwater and sediment (Medlen, 2018)
- Lower Columbia River USGS studies: surface water (Alvarez et al., 2014) and sediment (Counihan et al., 2014)
- 10 lakes: surface water, sediment, fish (Mathieu, in prep)



# Detection Frequencies



# WA Water/Stormwater Concentrations



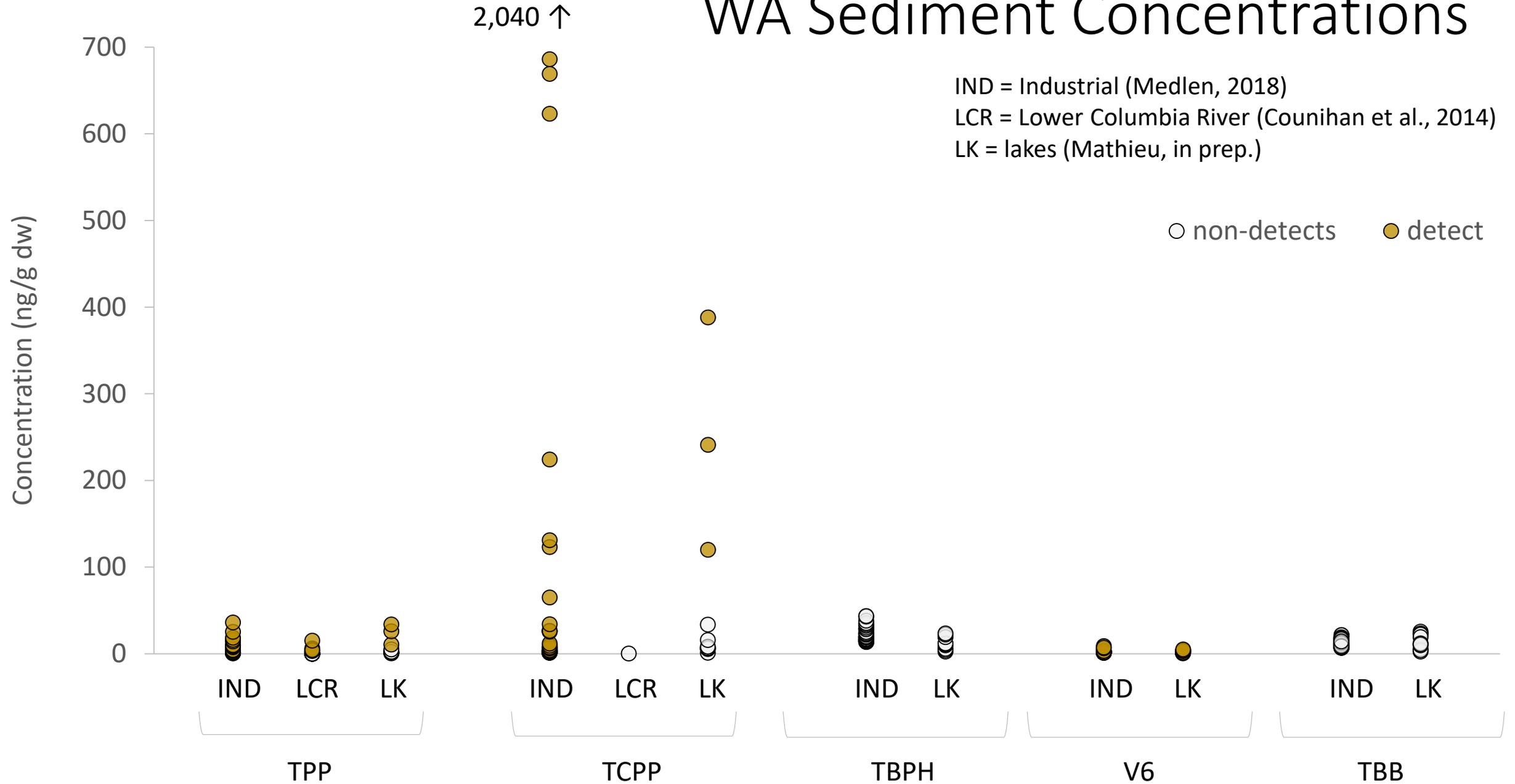
# WA Sediment Concentrations

IND = Industrial (Medlen, 2018)

LCR = Lower Columbia River (Counihan et al., 2014)

LK = lakes (Mathieu, in prep.)

○ non-detects    ● detect



# Summary of WA Sampling Results

- WA-specific data is limited
- TPP consistently detected in industrial sites, but not frequently in ambient water and sediments
- TCPP had ~30% detection frequency in industrial and lake samples, highest concentrations
- TBB and TBPH not detected, higher RLs
- V6 detected infrequently, at low concentrations
- No IPTPP data
- WA detection frequencies and concentrations were similar to or lower than other North American/European studies.

# References

Medlen, J., 2018. Clark County Local Source Control (LSC) Partnership Monitoring, Findings and Recommendations, 2017. Washington State Department of Ecology, Olympia, WA. Publication Number 18-03-018.

<https://fortress.wa.gov/ecy/publications/SummaryPages/1803018.html>

Alvarez, D., S. Perkins, E. Nilsen, and J. Morace, 2014. Spatial and temporal trends in occurrence of emerging and legacy contaminants in the Lower Columbia River 2008-2010. *Science of the Total Environment*, Vol. 484: 322-330.

Counihan, T.D., I.R. Waite, E.B. Nilsen, J.M. Hardiman, E. Elias, G. Gelfenbaum, and S.D. Zaugg, 2014. A survey of benthic sediment contaminants in reaches of the Columbia River Estuary based on channel sedimentation characteristics. *Science of the Total Environment*, Vol. 484: 331-343.

Mathieu, C., in prep. Washington State Department of Ecology, Olympia, WA.