

# **Overview of Results**

## **Fish and Water Column PCBs – Fall 2020**

SRRTTF Meeting

April 28, 2021

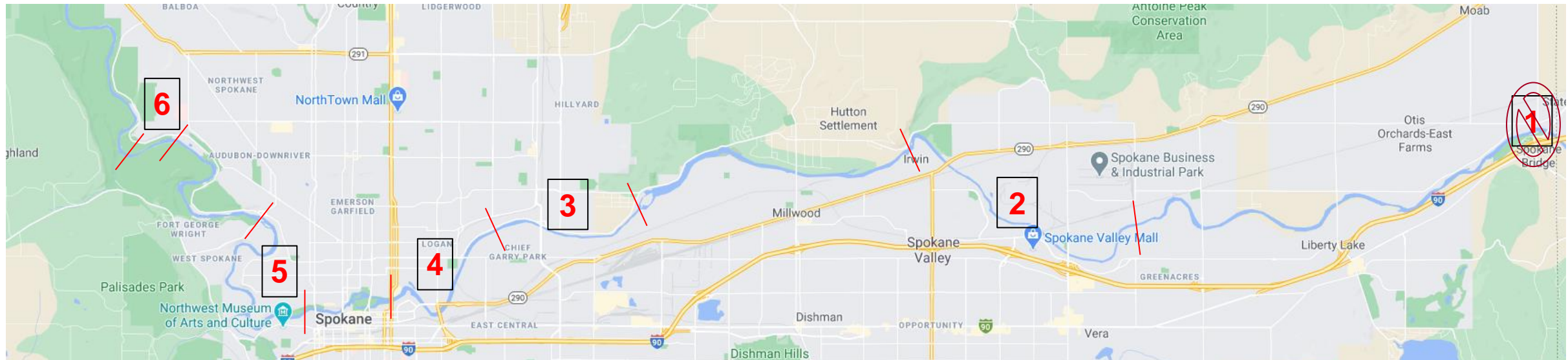


# Background

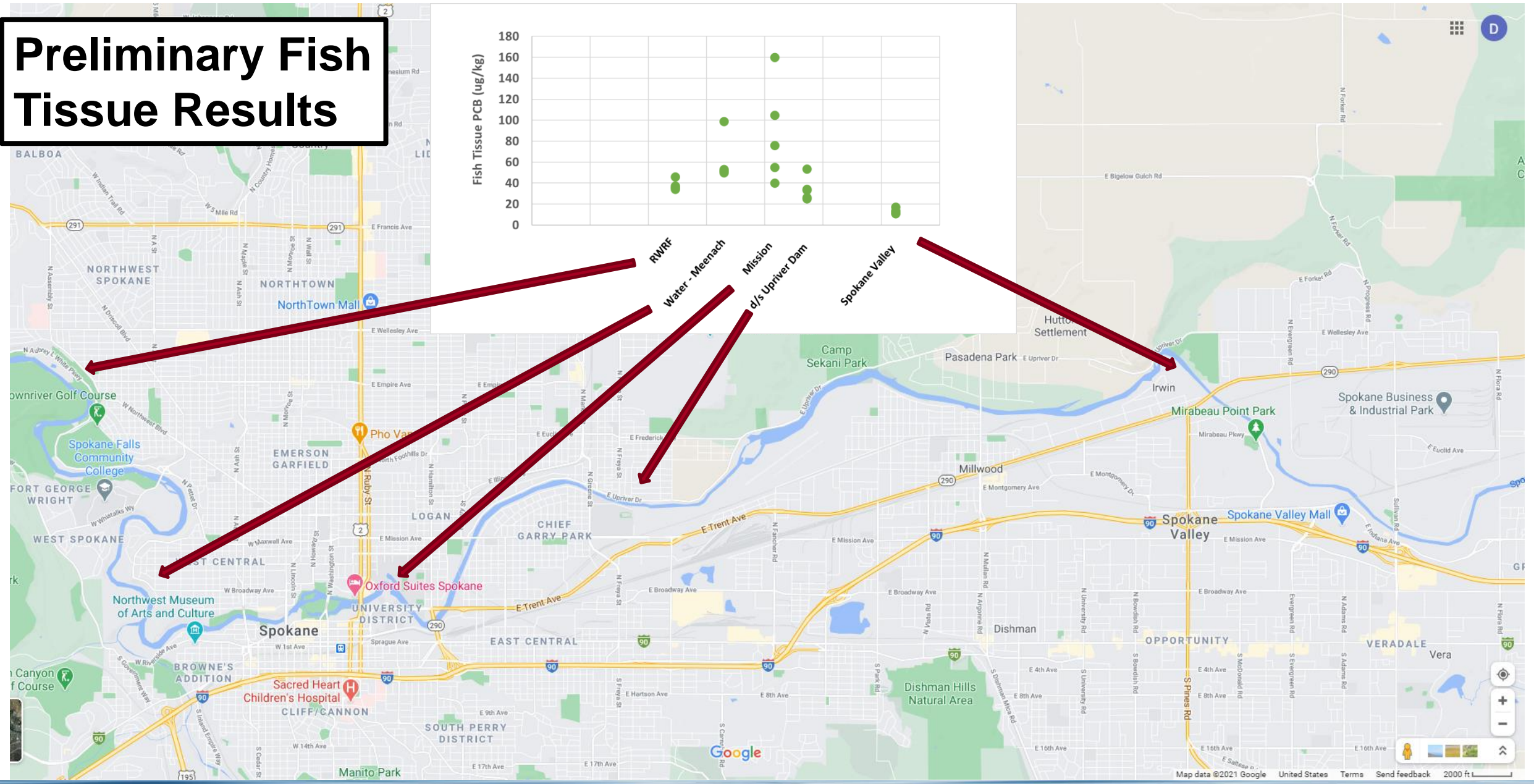
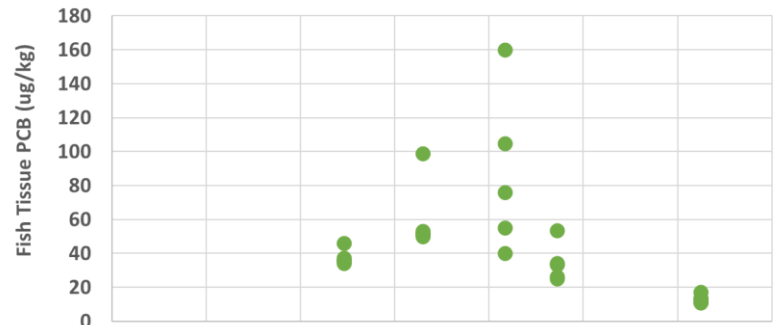
- SRRTTF has begun implementing a long-term PCB monitoring program
  - Fish: Year-old Redband Trout
    - Single event per monitoring year
  - Water column: Semi-Permeable Membrane Device
    - Three events per monitoring year: low, moderate and high flow
- Laboratory data from first SPMD event and fish tissue sampling has been received
  - Preliminary discussion of initial data review
  - Data have not been validated

# Fish Sampling Locations

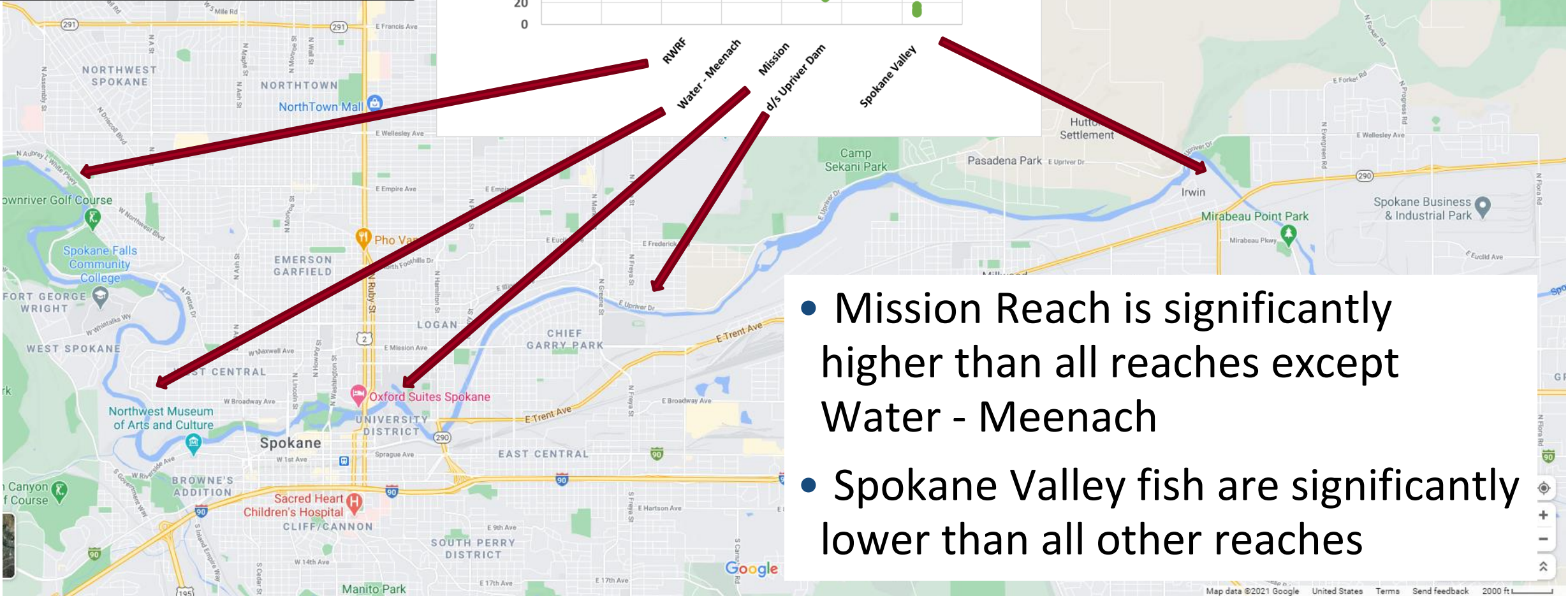
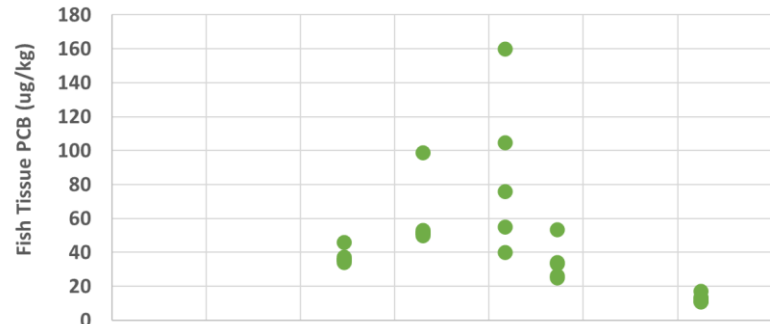
1. State Line
  - Insufficient numbers of fish available
2. Flora Road to Donkey Island
3. Upriver Dam to Crestline Street
4. Crestline Street to Division Street (Mission Reach)
5. Water St. to TJ Meenach
6. RWRF to the kayak takeout site



# Preliminary Fish Tissue Results



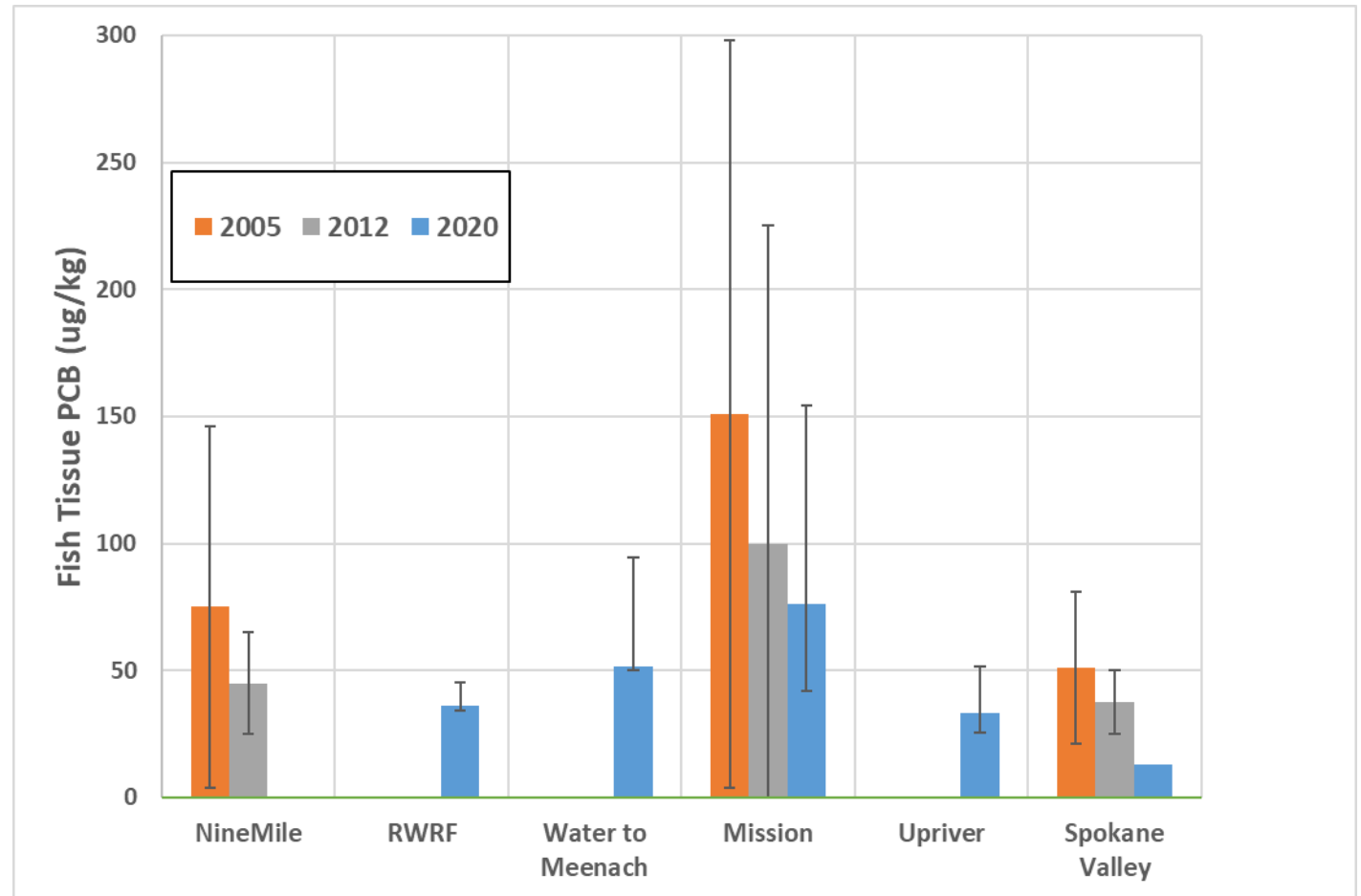
# Statistical Comparison Among Reaches



- Mission Reach is significantly higher than all reaches except Water - Meenach
- Spokane Valley fish are significantly lower than all other reaches

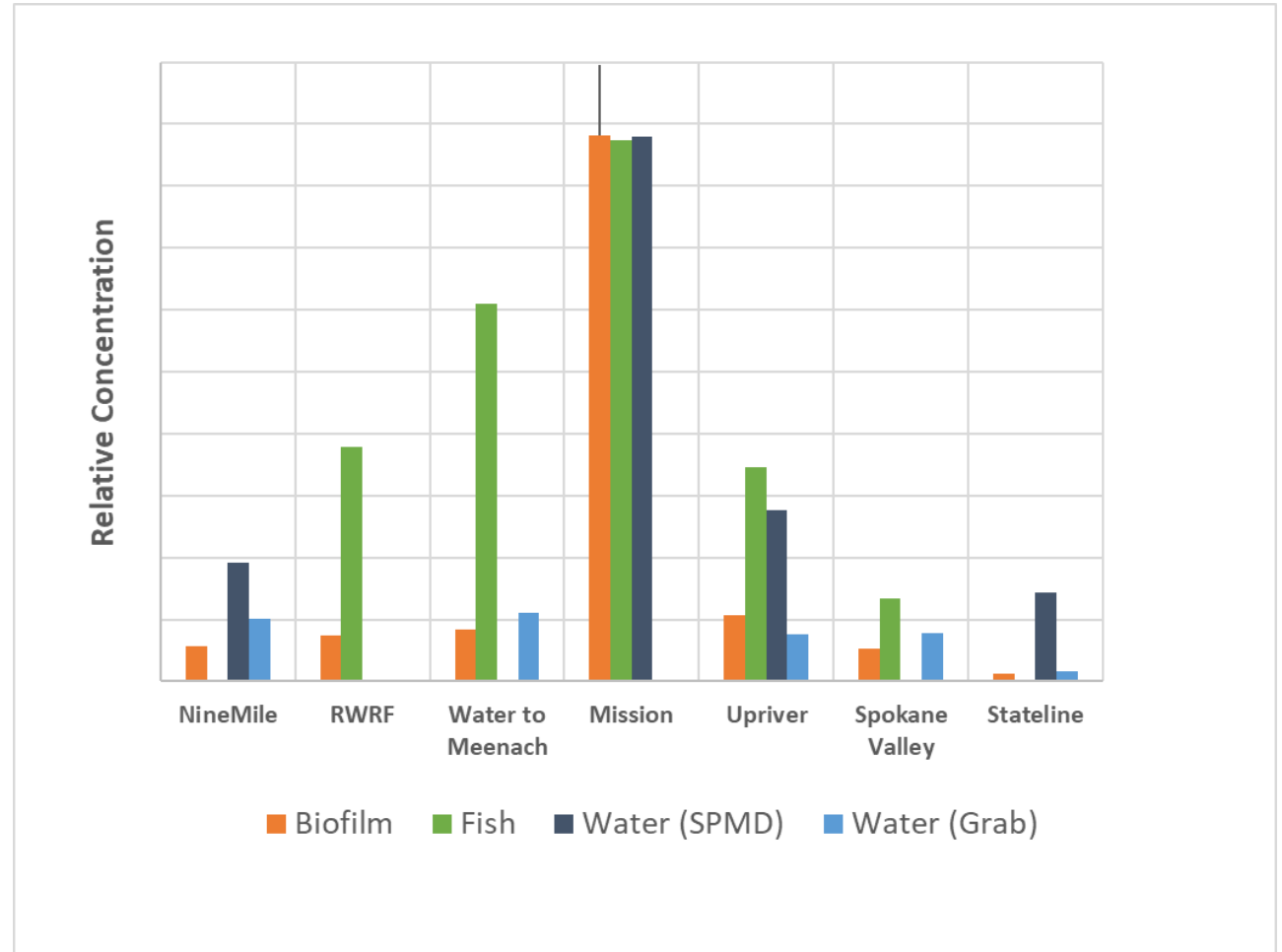
# Comparison to Prior Years PCBs in Trout

- Similar spatial pattern
  - Mission Reach roughly twice as high as other reaches
- Concentrations somewhat lower than prior years
  - Years are not directly comparable
    - Whole fish (2020) as opposed to fillets (2005 and 2012)
    - Year-old trout as opposed to a mix of ages
    - Similar lipid content



# Comparison Across Media

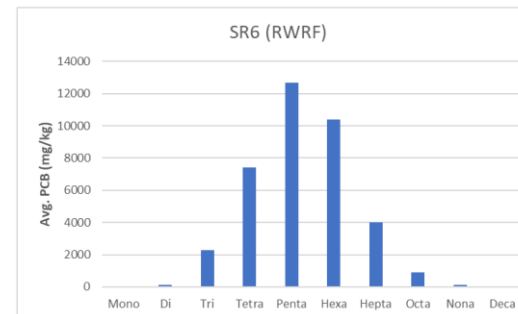
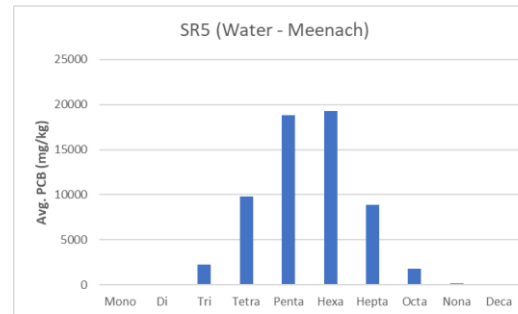
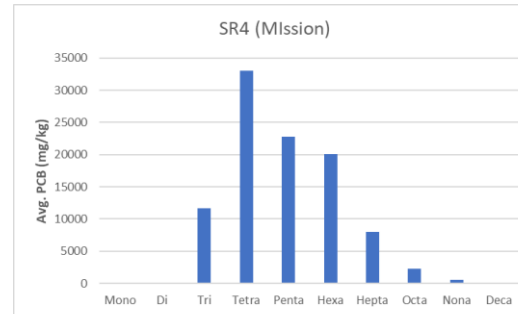
- Fish tissue, water column and biofilm PCBs peak in the Mission Reach
  - Fish tissue PCBs increase and decrease more gradually over distance than for other media
  - Localized source?



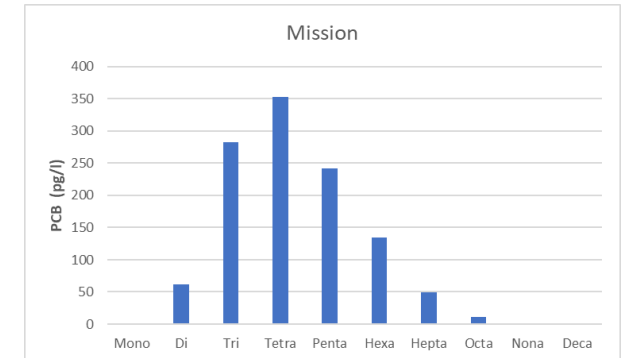
# Homolog Distributions

- Homolog distribution in fish differs by reach
  - PCB-11 concentrations are minimal in fish across all reaches
- Tetrachloro homolog most prevalent in Mission Reach for both water column and fish

## Fish



## Water





# Interim Findings

- Weight of evidence continues to build regarding the presence of PCB source near Mission Reach
  - PCB “signal” appears to be present in water column\*, sediment, and fish

\*Based on a single, unvalidated SPMD sample

# 2021 Monitoring Update: SPMD

- Second round of SPMD deployment completed
  - Winter moderate flow: mid-February to mid-March
  - Lab data not received yet
- Third (and final) round deploying this week
  - Spring high flow: late-April to late May

# 2021 Monitoring Update: Artificial Fill

- Artificial fill samples collected at same time as second SPMD retrieval
  - Five samples each of brick and concrete substrate collected from river bottom
- Interesting findings bank-side from Gravity as part of artificial fill sampling
  - Saw “a lot of cables with insulators” along the bank
  - Manager at No-Li Brewhouse said “they've dug up all kinds of things around that area”
- Potential source of PCB contamination?



**Questions?**

