

# **Spatial Assessment of PCBs in Fish and Water**



# Objective

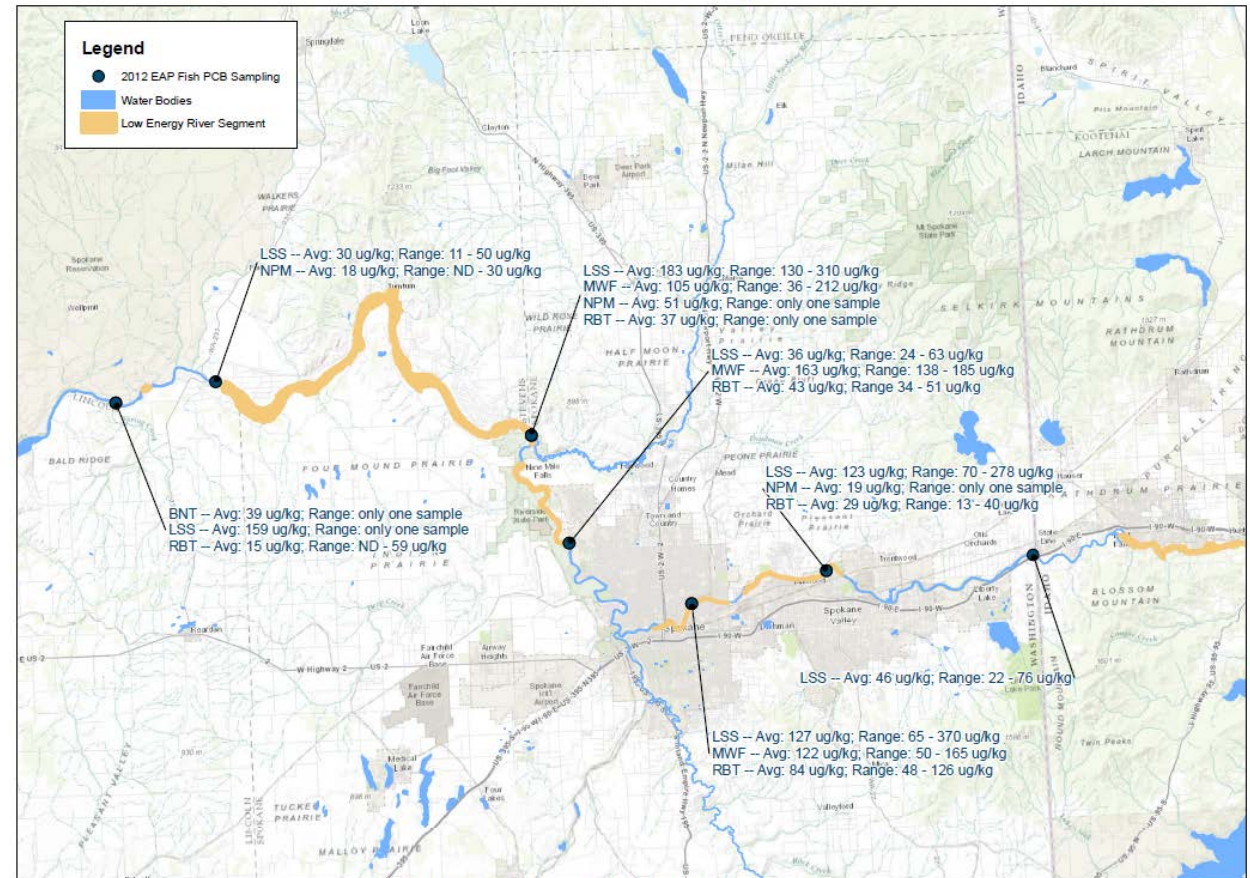
- Determine whether the relationship between fish tissue and water column PCBs differs significantly across locations
- Desired Outcomes
  - Identification of pathways leading to fish contamination
  - Potentially identify previously un-considered source

# Approach

- Compile all 2012 fish data corresponding to SRRTTF study area
  - Determine which congeners represent the ten highest concentrations
- Compile all 2014-2018 water column data at nearest sampling station
  - Determine which congeners represent the ten highest concentrations
- Compare results across stations and fish species

# Fish Locations Examined

- Stateline
  - Sucker
  - Barker Rd. water quality
- Plante's Ferry
  - Sucker, rainbow trout, pikeminnow
- Mission Park
  - Sucker, rainbow trout, whitefish
  - Greene St. water quality
- Upstream of Nine Mile
  - Sucker, rainbow trout, whitefish



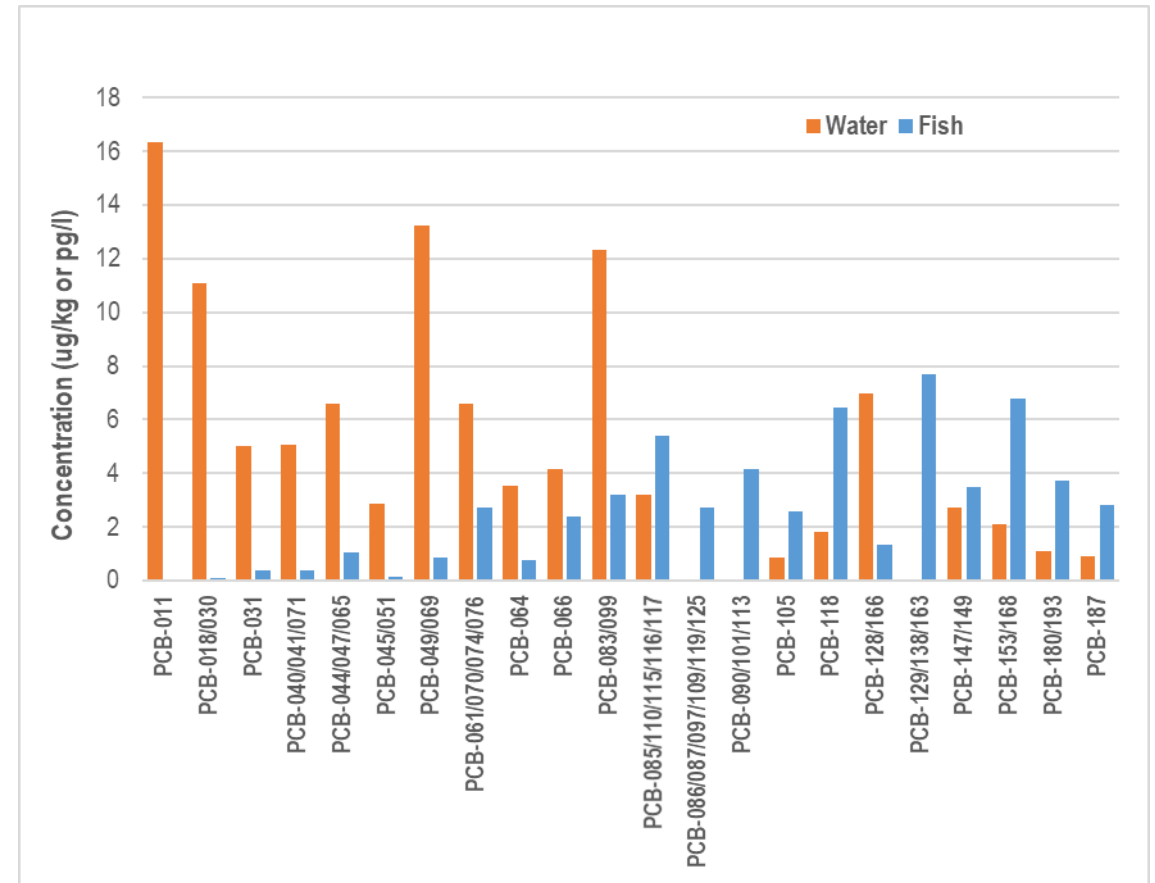
BNT: Brown Trout  
 LSS: Largescale Sucker  
 MMF: Mountain Whitefish  
 NPM: Northern Pike Minnow  
 RBT: Rainbow Trout

Prepared by City of Spokane RPWRF Lab 5/5/2016 - For informational purposes only

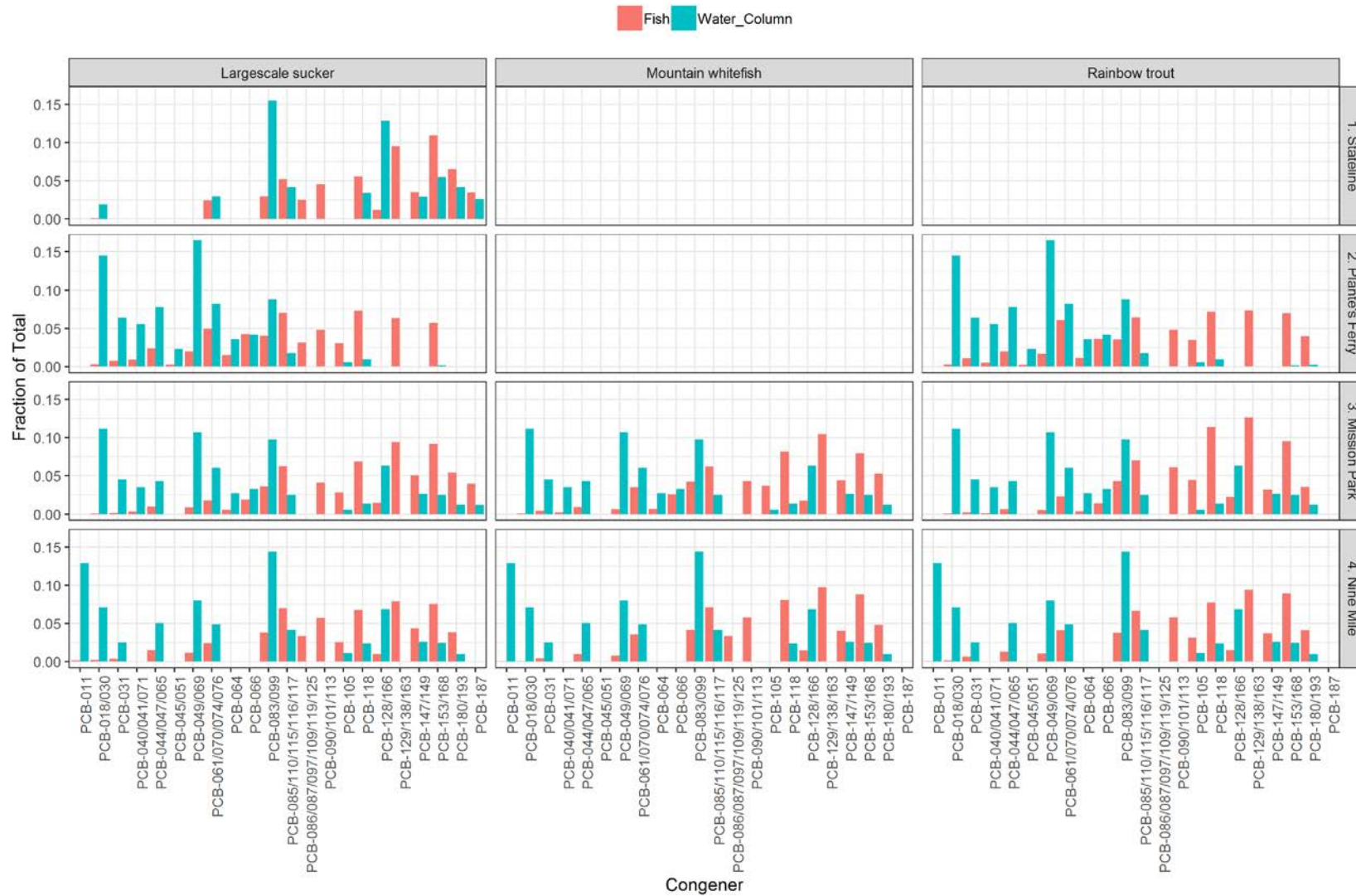
\*Low energy river segments are qualitative best estimates for areas where river velocities tend to be low compared to the rest of the river. These are subject to change depending on season/river flows.

# Results: Across All Stations and Species

- Clear differences overall between water column and fish tissue congener distribution
  - Water column dominated by PCB-11 through PCB-83/99
  - Water column dominated by PCB-85 through PCB-187



# Results: By Station and Species



# Conclusions

- Clear indication that congeners bioaccumulate to different degrees
  - Consistent with bioaccumulation model results
  - For highly bio-accumulative congeners, possible to be elevated in fish tissue and non-detectable in water column
- No obvious spatial trends observed implicating “new” sources