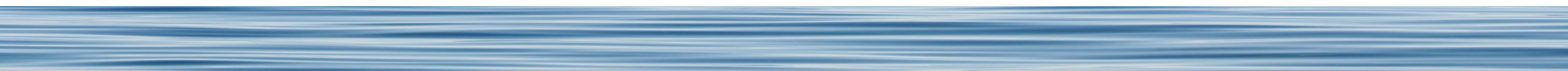


Final Approval of Report
“2020-2021 Evaluation of PCBs in the Spokane River
via Semi Permeable Membrane Devices (SPMDs)”

Spokane River Regional Toxics Task Force Meeting
December 15, 2021

Background

- Task Force must make measurable progress toward meeting applicable water quality criteria for PCBs
 - Demonstration of progress requires a long-term monitoring program
 - Task Force initiated a long-term monitoring program starting in 2020
 1. Analysis of PCB concentrations in year-old Redband Trout
 2. Analysis of PCB concentrations in the water column via semi-permeable membrane devices (SPMDs)
- 

SPMD: Semi-Permeable Membrane Device

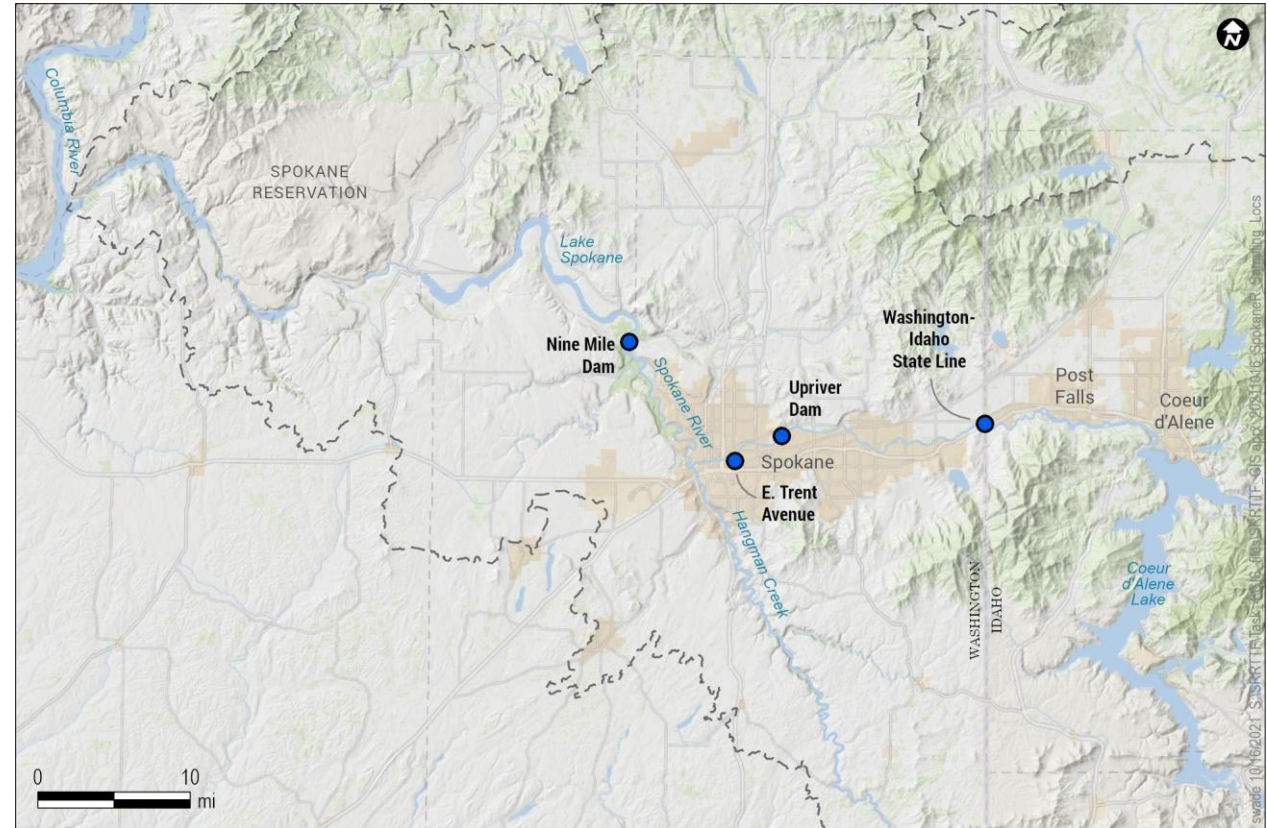
- Passive sampler
 - Low-density polyethylene tube filled with a highly purified lipid
 - PCBs from the water column diffuse through tube walls and concentrate in the lipid
- Deployed in field for ~28 days
 - Provides integrated estimate of dissolved phase water column PCB concentration



Pictures from Ecology (2019) SOP

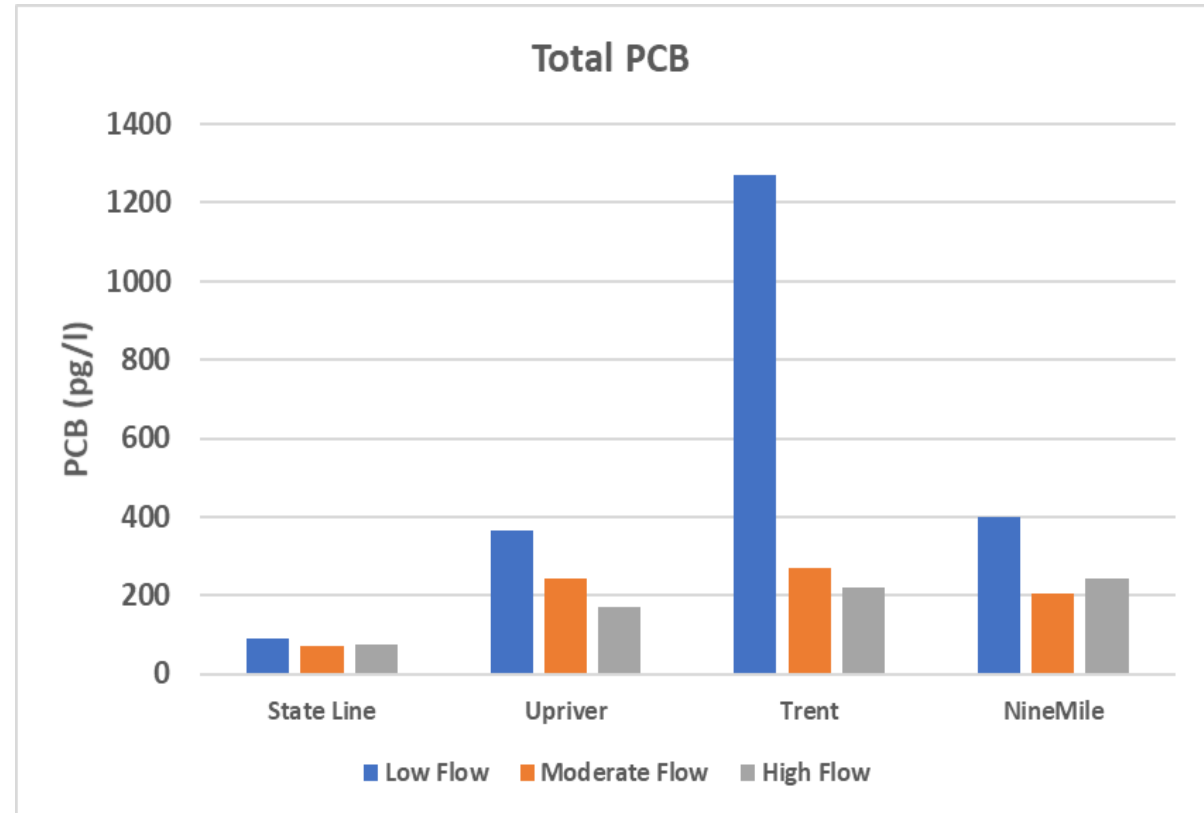
SPMD Deployment Details

- Four locations
 - WA/ID State Line
 - Downstream of Upriver Dam
 - E. Trent Avenue (i.e., Mission Reach)
 - Nine Mile Dam
- Three deployment periods
 - Low flow (Aug/Sept 2020)
 - Moderate flow (Feb/Mar 2021)
 - High flow (Apr/May 2021)



Observed Concentrations

- Elevated PCB concentrations were observed at Trent Ave./Mission Reach during low flow
 - Lends support to the theory of a previously un-defined source



Considerations Moving Forward

- SPMDs are not perfect
 - Measure only dissolved PCBs, requiring a separate estimation of total PCB concentration
 - Quality control assessment generates large percentage of “estimated” values
- Potential refinements to be discussed at upcoming workshop

Report Approval

- Draft report provided for review October 27
 - Discussed at November 3 TTWG Meeting
 - Edited in response to comments received
 - Added discussion of assessment of field blanks
 - Refined discussion of suitability of Trent Ave data for trend detection
- Final draft provided for review December 8