

# **Short Term Projects/Sampling Efforts for SRRTTF Consideration**

TTWG Meeting  
November 24, 2020

# Background and Objective

- Task Force may have some legislative funding left unspent by the expiration date of June 30
- TTWG had previously identified several potential work tasks
  - Original plan was to wait to prioritize these tasks until completion of the SPMD and fish tissue PCB sampling
  - Are there activities that are clearly a priority that could be conducted by June?
- Today's objective
  - Review feasibility assessment of several short-term projects
  - Determine if any of them merit recommendation for Task Force approval

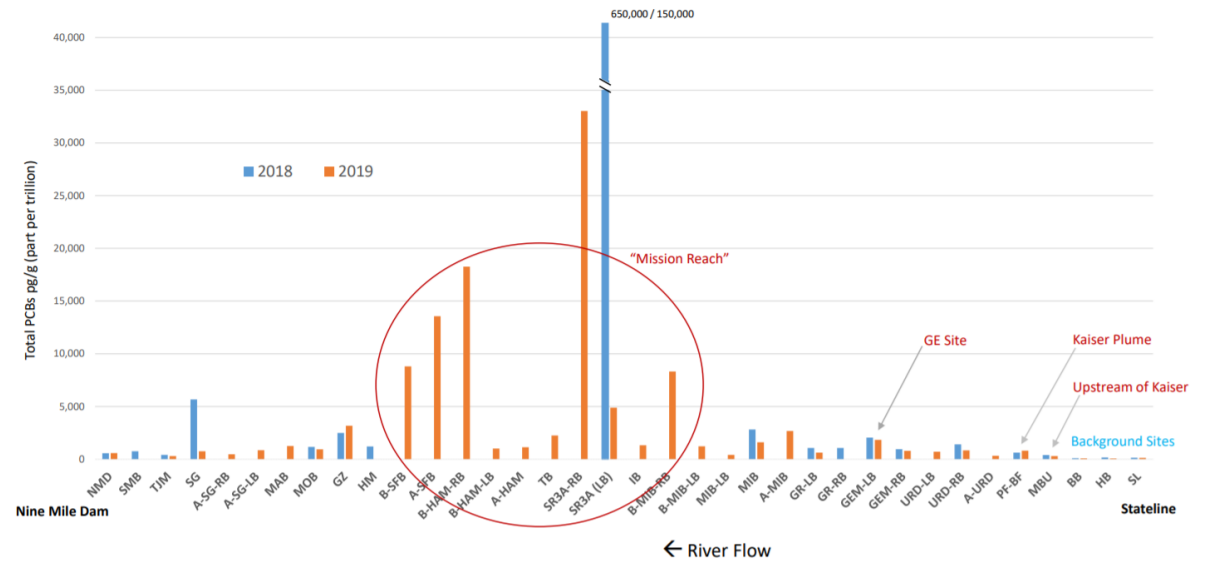
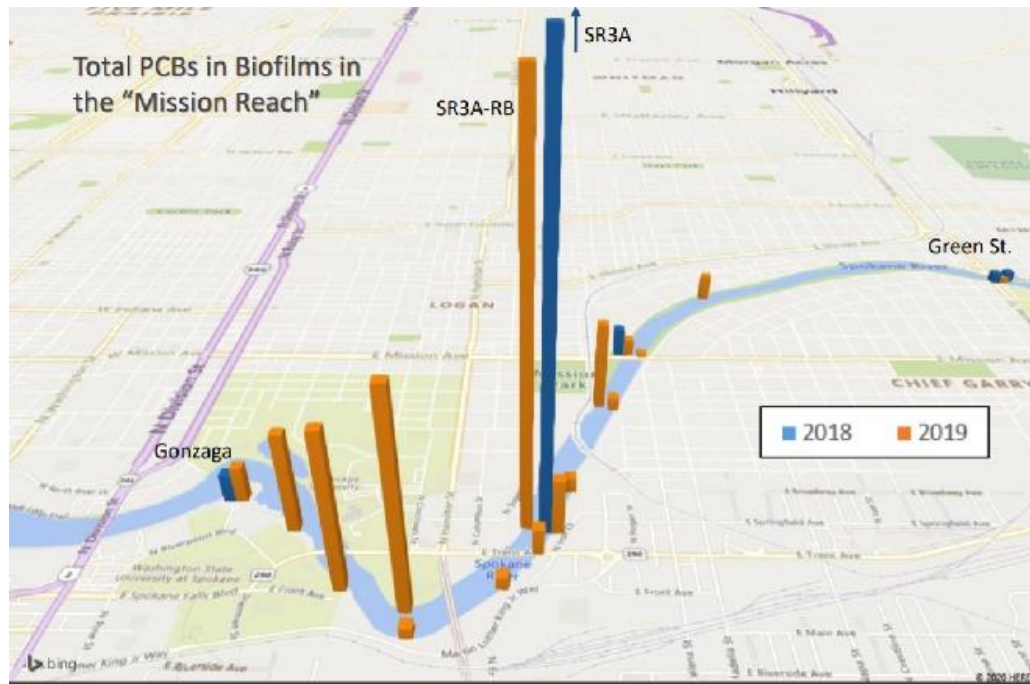
# Identified Priority Tasks

| Task  | Status                        |
|---|-------------------------------|
| Long-term Effectiveness Monitoring                        | Underway                      |
| Hot Spot Source Identification                            | Pending Future Prioritization |
| Sampling to Define Non-point Load during High River Flows | Pending Future Prioritization |
| PMF Phase 2B  | Pending                       |
| Selective Low-flow Water Column Synoptic Sampling         | Pending Future Prioritization |
| Significance of Groundwater Sources Up-gradient of Kaiser | Completed                     |

- Tasks related to Hot Spot identification most amenable to completion in the short-term

# Background: Mission Reach Hot Spot

- Biofilm PCB concentrations measured by Ecology are elevated in the Mission Reach



# Competing Evidence in Terms of Source of Hot Spot

| Potential Source                | Arguments in Favor   | Arguments Against   |
|---------------------------------|--|---|
| Contaminated Bottom Fill        | <ul style="list-style-type: none"> <li>• Consistent with localized biofilm contamination, absence of water column impact</li> </ul>  | <ul style="list-style-type: none"> <li>• Fill has been there many decades, likely “spent”</li> </ul>  |
| Contaminated Bottom Sediments   | <ul style="list-style-type: none"> <li>• Consistent with localized biofilm contamination, absence of water column impact</li> <li>• Anecdotal evidence of buried drum</li> </ul> | <ul style="list-style-type: none"> <li>• High energy segment with little deposition makes historical sediment contamination unlikely</li> </ul> |
| Upland Surface Contamination    | <ul style="list-style-type: none"> <li>• MS4 and CSO outfalls exist in area</li> </ul>   | <ul style="list-style-type: none"> <li>• Existing outfall concentrations aren’t compelling</li> </ul>   |
| Upland Subsurface Contamination | <ul style="list-style-type: none"> <li>• Known areas of historical contamination exist</li> <li>• Localized times of gaining</li> </ul>  | <ul style="list-style-type: none"> <li>• Net losing reach</li> <li>• No downstream signal in biofilm or water column</li> </ul>                 |

# Short-Term Hot Spot Projects Under Consideration

## Contaminated Bottom Fill

- Sampling of artificial bottom fill material

## Contaminated Bottom Sediments

- Object detection survey
- Laboratory analysis of the river bottom samples collected by Ecology

## Upland Surface Contamination

- Additional stormwater investigations

## Upland Subsurface Contamination

- Sampling of the artesian well identified by Ecology
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# Sampling of Artificial Bottom Fill Material

Gravity Consultants confirms that they can safely access the river prior to spring flow increases

- Collect samples using a small power grab with video camera from a boat
- Sample different types of substrate (concrete and brick)

## Costs

| <b>Activity</b>                             | <b>Cost</b> |
|---|-------------|
| Field crew and equipment                    | \$11,000    |
| Laboratory analysis (\$600 to \$900/sample) | \$6,000     |
| Validation/Reporting                        | \$5,000     |
| QAPP  | \$?         |

# Object (Geophysical Anomaly) Detection Survey

Use geophysical sensors to determine presence of buried PCB sources (e.g. transformers, drums)

## Tiered approach

- Survey by boat with magnetometer sensor to identify possible ferrous objects
- Followed, as necessary, by underwater imaging to identify sources
- Followed, as necessary, by ground penetrating radar

## Costs

| Activity                 | Cost     |
|--------------------------|----------|
| Field crew and equipment | \$13,000 |
| Reporting                | \$3,000  |
| QAPP                     | \$0      |



# Analysis of Existing Bottom Sediment Samples

Laboratory analysis of the river bottom samples collected by Ecology during the Trent Bridge piling re-construction project

- Material looked like typical glacial outburst materials
- Did not observe obvious fill materials such as bricks or metal in the cuttings

## Costs

| Activity             | Cost   |
|----------------------|--------|
| Laboratory analysis  | \$3000 |
| Validation/Reporting | \$?    |
| QAPP                 | \$?    |

# Additional Stormwater Investigations

Ecology identified several outfall pipes that are not part of City's stormwater system

- Three near area of highest contamination
- These pipes were not observed to be discharging during an October wet weather visit by Jeff Donovan

Implementation of stormwater monitoring program not likely feasible prior to June

Additional reconnaissance of presence of outfall would be worthwhile

- Negligible costs if conducted by local partner



# Sampling of Artesian Well

Ecology temperature float identified flowing well downstream of Hamilton St.

Sampling is feasible prior to June

Costs \$5k

- Much less if collected by local partner or by Gravity in conjunction with other field work.



# Summary of Options

All options could be feasibly conducted before June 30

Biggest uncertainty is QAPP requirement

- Required degree of rigor
- Time needed for approval

| Option                                       | Cost                         |
|--|------------------------------|
| Sampling of Artificial Bottom Fill Material  | \$22,000 + QAPP              |
| Object Detection Survey                      | \$16,000                     |
| Analysis of Existing Bottom Sediment Samples | \$3,000 (+ QAPP/Validation?) |
| Additional Stormwater Reconnaissance         | Negligible                   |
| Sampling of Artesian Well                    | ≤\$5k + QAPP                 |

# Decision?

- Which of these tasks, if any, do you want to put forward for Task Force approval on December 2?