Review of Data Synthesis Workshop Output and Recommendations for Next Steps from Technical Track Work Group

Background

In May 2019, the Task Force held a multi-day Data Synthesis Workshop with two main goals:

- Review and summarize the existing data on PCBs in the Spokane River
- Gather input from the workshop attendees to help define next steps in the scoping of future Task Force efforts.

The Technical Track Work Group (TTWG) has taken the output from the Data Synthesis Workshop along with input from some of the work groups, and organized future work scope into the following categories for purposes of prioritization.

The categories identified were:

I. Long-term Effectiveness Monitoring
II. Focused Investigations
III. Education and Outreach
IV. Technical and Facilitation Support
V. Other Actions

For each identified category a Purpose Statement and Path Forward has been developed. The Purpose Statements and Paths Forward developed by the TTWG are meant to provide a high-level direction and implementation strategy for the full Task Force to consider in establishing future work priorities and allocating funding. The Paths Forward in many cases are structured to be implemented sequentially based on the findings of the previous element(s) in the strategy, i.e. – the decision to implement element two is based on the outcome of the work or analysis performed in element one.

I. Long-Term Effectiveness Monitoring

Purpose

Define the goals and objectives for a long-term sustainable monitoring program along with the associated methodologies for such a program so that the effectiveness of PCB reduction activities in the watershed can be tracked by monitoring one or more media. This approach considers current methodologies for measuring PCBs in different media and their limitations in measuring the potential magnitude of future reductions in PCB levels.

Path Forward

Initial proposed path forward elements are:

- Contract with LimnoTech to conduct a preliminary analysis of the potential media and the associated methodologies that could be utilized for a long-term monitoring program that would track the effectiveness of PCB related reduction actions in the watershed
    - Media for consideration include but may not be limited to fish, sediment, water column, point source discharges
- LimnoTech provides a matrix that discusses the pros and cons of tracking the effectiveness of PCB reduction actions for each media and associated methodology. LimnoTech will also provide a recommended media and methodology, along with a proposed high level sustainable monitoring plan and the projected costs for the recommended plan.
- After Task Force review and approval, and in consultation with appropriate technical resources (based upon media and methodology selected), LimnoTech designs and prepares a QAPP for the long-term monitoring program
- Task Force implements long-term effectiveness monitoring program

II. Focused Investigations

Purpose

Define the goals, objectives, and priorities for future focused investigations based upon sampling data results from previous investigations either undertaken or supported by the Task Force that have identified river reaches or segments of river reaches where the collected data indicate suspected non-point source contribution to the water column or potential areas of impacted sediment exist.

Path Forward

Initial proposed path forward elements are:

a) Follow-up Investigations from Multi-media Data Collection

i. Based on previous data collected (i.e. - water column, biofilm, sediment fish), contract with LimnoTech to identify river reaches or segments of reaches where collected data indicate impacts from non-point sources are occurring or appear to be impacting the media sampled.

    - Develop a matrix that for each identified reach or segment contains the data associated with the basis for having selected the identified reach or reach segment. For those reaches or segments in which non-point source contribution has been identified, the matrix should also contain a best estimate for the mass loading contribution to the water column. For those reaches or segments in which impacted sediment has been identified, the matrix should also contain a best estimate of the aerial extent and concentration of the area identified
    - Based upon the matrix prepared, prioritize the identified reaches or segments based upon the estimated amount of mass contribution occurring. For sediment impacted areas, prioritize areas based on the product of aerial extent and concentration above background levels
    - Based on the prioritization work, attempt to determine from the review of historical records if there may be any past land use information that might help to explain the identified impact
- After Task Force review and approval, and in consultation with appropriate technical resources (based on media and methodology selected) contract with LimnoTech to design a sampling strategy and prepare a QAPP for additional data collection for the identified highest priority areas
- Task Force implements focused investigation projects

b) <u>Non-Point Source Contribution During High Flow River Condition</u>

- Contract with LimnoTech to review the 2016 non-low flow water column synoptic sampling data as compared to low-flow water column within the context of non-point source PCB contribution during high-flow river conditions.
    - Develop a matrix of the sampled river reaches that contains data comparisons for non-point loading contribution under various river flow conditions
    - If the data comparisons for river reaches indicate discernable increased loading conditions for various river flow conditions, identify the impacted reaches and prioritize the reaches based on incremental mass loadings under higher river flow conditions
    - After Task Force review, contract with LimnoTech to design a sampling strategy and prepare a QAPP for additional data collection for the identified highest priority reach over a range of river flow conditions as indicated by the 2016 data
    - Task Force implements focused data collection project

- Based on results, consider if additional reaches are appropriate for future sampling, and also identify any suggested follow up actions by Ecology or others for upland sources.

c) PMF Phase 2 Analyses

Following the completion of Phase 2 work, determine the scope of any potential additional PMF identification work and how that work might be used to identify PCB "factors" and where they exist with the watershed

d) Additional Selective Low-Flow Water Column Synoptic Sampling

Contract with LimnoTech to oversee a synoptic sampling event under low-flow conditions to estimate the magnitude of groundwater loading contribution from the Spokane Gage to below Nine Mile Gage.

e) Significance of Groundwater Loading from Sources Upgradient of Kaiser

Contract with LimnoTech to develop a methodology to annually track on an on-going basis any trending within the monitoring wells upgradient of Kaiser utilizing PCB data collected and reported by Kaiser under their groundwater monitoring program to Ecology

III. Education and Outreach

Purpose

Design and implement communication programs that are focused on raising the level of awareness of the public on Spokane River PCB issues

Path Forward

Develop and implement communication programs the approaches identified below:

a) State of the River Presentations in Conjunction with Spokane River Forum Meetings - Provide a more detailed story about PCB reduction efforts
b) Conduct a Spring 2020 education campaign through the Spokane River Forum that:
    i. Focuses on conducting outreach that helps to reduce use of inadvertent PCB products

ii. Bolsters and quantifies household waste collection

c) Develop and provide a school education curriculum

IV. Technical Support and Facilitation Support

Purpose

Provide the necessary support for the general operation of the Task Force in the areas of outside independent technical support and meeting and organizational facilitation support

Path Forward

To support the operational needs of the Task Force the following outside support is needed:

a) Contract LimnoTech for independent technical support for the Task Force and non-project specific support for Task Force Work Groups
b) Contract with White Bluffs for meeting facilitation, process management, and Work Group project coordination support

V. Other Actions

Listing of other potential actions

a) Conduct additional R&D on emerging technologies for treatment facilities and disposal of PCBs once removed?
b) Establish sample location naming protocols that are common to all technical work activities? (*Note: Data management has developed naming protocol and can provide to White Bluffs to share this more broadly*)
c) Evaluate ELISA (Enzyme-Linked Immunosorbent Assay) test kits for potential use as a screening methodology for the presence of PCB?
d) PCB sniffing dog for high concentration areas? (*Note: Ecology doing some preliminary investigation on when and how this might be applicable to Spokane River, and share findings back with Task Force*)
e) Linkage between PCB conditions found and fish tissue?
f) Estimate contribution of atmospheric sources to stormwater.
g) Effectiveness Monitoring – Track Metrics (*Note: Opportunity for Task Force to provide input to/collaborate with Ecology on Measurable Progress report being prepared in 2020*)

- The number of locations identified by Task Force monitoring or research efforts that are contributing PCB that have been included in Ecology's Toxics Cleanup Program
- An estimate of the quantity of PCBs removed via tertiary treatment technology and other methods
- An estimate of the quantity of PCBs removed through sediment removal from stormwater catch basins and street sweeping
- An estimate of quantity of PCBs removed by the City of Spokane and others as applicable, resulting from various stormwater practices and CSO upgrades
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- A tracking of the number of outreach events the Task Force and individual members conduct

Notes: For selected actions, will need to identify project, scope, schedule, cost, and linkage to the Comprehensive Plan