

Final Draft – Phase 1 Work Plan – 2021 to 2023 State Biennium Budget

(June 16, 2021 Version)

The SRRTTF will be receiving its largest allocation of state funding for the upcoming 2021 – 2023 biennium, which begins July 1 and concludes June 30, 2023. This provides an opportunity for the Task Force to take its efforts to find and reduce PCBs to the next level.

Individual Task Force work groups have been identifying and ranking projects and activities since early 2021, with initial prioritized project lists provided by the Tech Track and iPCB/TSCA work groups. Education & Outreach have also been working on recommended outreach activities. At the April and May 2021 Task Force meetings, guidance was shared on work plan development, as provided below (not in order of priority):

- Identify and support larger scale projects
- Incorporate environmental justice best practices into Task Force activities and projects
- Focus on hot spots in Mission Reach
- See if we can identify a PCB source in the Mission reach and get a focused remediation process underway even if we can't complete it in the next two years.
- More information on the gap area between reaches 4 and 5
- Emphasize research and development along with site assessment
- Identify and evaluate methods and materials in treatment technologies for further reducing PCBs in treatment processes
- Leave some budget unallocated initially to provide flexibility on items that may emerge over the next year or so as additional data collection results or other information becomes available.
- Identify ways to participate in State-conducted testing for toxics in consumer products per recently passed State law
- Provide opportunity for additional Task Force ideas on activities to include in the work plan and for public input.
- Specific guidance on budget topics in draft spreadsheet discussed at May meeting

An informal group comprised of work group leads and the SRRTTF Administrative Contracting Entity (ACE) and the facilitation team has been meeting, considering Task Force guidance and past communications, to review and compile inputs from the work groups into a draft Phase 1 work plan for the biennium. Phase 1 indicates that this is the first set of tasks recommended to the Task Force for funding in the new biennium, totaling \$731,060.

The Phase 1 Final Draft work plan recommended for funding is summarized below with task descriptions provided as attachments (unless previously provided and approved by the Task Force).

2021-2023 Draft Work Plan						
Summary Action (organized by Work Groups)						
ANTICIPATED FUNDING - \$2,000,000						
2021 - 2023 (Estimated Timing)						
Task	Description	7/1 - 12/21	1/1 - 6/22	7/1 - 12/22	1/1 - 6/23	Projects
TTWG Recommended Projects (sorted by priority)						Total
1	Long-term effectiveness monitoring - water column and fish			\$100,000	\$100,000	\$200,000
10	Selective low flow water column synoptic sampling (including USGS gage to 9-Mile reach mass balance)			\$50,000	\$25,000	\$75,000
11	Sources and Pathways of PCB-11: Phase I	\$8,000				\$8,000
5	Groundwater elevation monitoring to determine periods of groundwater inflow – Mission Reach near Basalt – SVRPA interface	\$5,000				
3	Analysis of Existing Bottom Sediment Samples from Trent Bridge	\$5,000				\$5,000
9	PMF Phase 2B	\$15,000				\$15,000
new	PCB Sniffing Dog - Mission Reach	\$7,000				\$7,000
Mission Reach Hotspot Source Identification (5 tasks)						
7	Additional water column monitoring in Mission Reach (hot spot)	\$85,000				\$85,000
6	Monitor Artesian Well – Mission Reach					
2	Sub-bottom object detection survey					
new	Mission Reach bottom sediments sampling					
new	Scoping Analysis - Phase I - Assess ability to use temporary drive point piezometers for areas in the vicinity of biofilm hot spots - Assess ability to install and sample, assess conductivity to determine groundwater contribution					
	High flow sampling to identify non-point sources - tbd			x	x	
8	Additional Biofilm Sampling			x	x	
	Temporary drive point piezometers for Mission (when gaining) to obtain WQ samples (in the vicinity of biofilm hotspots) - During Low flow or coordinate with Avista - TBD drawdown			x		
12	Old School drywell, stormwater concentrations - Phase I Assessment - tbd					
TSCA Recommended Projects (sorted by priority)						
2	Develop Industry List of Pigments (Chlorinated vs. Non-Chlorinated)	TBD				
1	Newsprint/Graphic Printing Trials w/Non-Chlorinated Inks/Pigments					
5	Lower Procurement Limits Campaign, Phase 1 - 3rd Party research effort	TBD				
4	Sources & Pathways of PCB-11, Phase 2 (TBD)					
7	Petition EPA to enforce PCBs in products under TSCA (TBD)					
8	Petition EPA to perform Cost/Benefit Analysis and reevaluate TSCA (TBD)					
Education & Outreach Projects						
1	Media Campaigns		\$20,000			\$20,000
2	Further Develop iPCB Education & Outreach Campaign Objectives	\$9,000				\$9,000
3	Environmental/social justice initiative					
4	Building demolition and renovation controls - updated					
Database management						
1	Maintain and update database	\$2,500	\$2,500	\$2,500	\$2,500	\$10,000
PCB Treatability Investigations Work Group (Proposed)						
1	Review technologies and develop work plan					
2	Implement initial work plan activities					
General Activities						
1	Review and update SRRTTF Comprehensive Plan/adaptive management					
2	LimnoTech Technical Support	\$30,000	\$30,000	\$30,000	\$30,000	\$120,000
3	ACE Administration	\$2,500	\$2,500	\$2,500	\$2,500	\$10,000
4	SRRTTF Facilitation (White Bluffs)	\$24,995	\$24,995	\$24,995	\$24,995	\$99,980
5	Tech Track Facilitation (LDW)	\$15,520	\$15,520	\$15,520	\$15,520	\$62,080
Total Cost (by period)		\$209,515	\$95,515	\$225,515	\$200,515	\$731,060
				Total	\$731,060	
					Remaining	\$1,268,940

Attachments
(Scope Descriptions)

Long-term Effectiveness Monitoring – Future Years

The Technical Track and Fish Work Groups developed recommendations regarding a long-term monitoring plan to address the Task Force’s objective of demonstrating progress toward achievement of applicable water quality criteria for PCBs in the Spokane River. The plan consists of monitoring the PCB content of one year old rainbow trout, along with water column PCB concentrations measured using semi-permeable membrane devices (SPMDs). Fish are to be collected once per sampling year and the water column will be sampled three times per sampling year (over three separate one month periods representing low, medium and high flow conditions). The Task Force approved funding for the first year of monitoring per this long-term plan in 2020. Fish were collected by Washington Department of Fish and Wildlife (WDFW) for purposes of PCB analysis in fall of 2020. SPMD sampling for the first started in the summer of 2020 and was completed in spring of 2021. The next fish and SPMD water column sampling is scheduled for fall of 2022 through spring of 2023.

In order to meet the objective of providing a long-term trend assessment, this monitoring must continue periodically into the future. The Technical Track and Fish Work Group recommended that monitoring be conducted every other year, although no formal decision was made by the Task Force regarding future monitoring frequency. This task consists of continuing the monitoring of water column and fish tissue for PCBs into the future.

Cost: \$200,000.

Selective Low-flow Water Column Synoptic Sampling

The Task Force conducted low flow synoptic surveys to support mass balance assessments in 2014, 2015, and 2018. Only the 2018 survey generated mass balance results for the segment of river between the USGS gage in Spokane and Nine Mile Dam. This survey showed the potential for an unknown PCB load of 60 mg/day for this segment, which (if accurate) is large relative to other sources.

The intent of this task is to conduct an additional low flow synoptic survey to support a mass balance assessment for the segment of river between the USGS gage and Nine Mile Dam, to provide confirmation of the unknown loading source. This task was originally scoped in 2019 and consisted of water samples being taken at the USGS gage, Nine Mile Dam and one intermediate Spokane River location. This would provide improved resolution to the 2018 survey results in terms of where the unknown load is entering.

Cost: \$75,000.

Sources and Pathways of PCB-11: Phase I – Initial Investigations

PCB-11 is of particular interest in the Spokane River watershed because it is the most prominent congener found in the water column in the Spokane River. It is therefore necessary to identify the sources and pathways of PCB-11, in the Task Force’s interest of reducing the amount of PCBs in the Spokane River and ultimately bringing the Spokane River into compliance with applicable water quality standards for PCBs. This initial phase of PCB-11 investigations consists of conducting a mass balance for PCB-11 in the Spokane River, in order to verify whether the known sources fully explain observed instream loads.

Mass balance analyses have previously been conducted at a homolog scale for the 2014, 2015, and 2018 synoptic surveys. The results of these analyses specific to dichloro homologs provide some insight into the potential for their being unexplained sources of PCB-11, as PCB-11 is a major contributor to total dichloro homolog concentrations. Results are summarized below.

Magnitude of Unexplained Dichloro Homolog Load from Prior Mass Balance Assessments (mg/day)

Time Period	River Reach							
	Lake CdA to Post Falls	Post Falls to Barker	Barker to Mirabeau	Mirabeau to Plante’s Ferry	Plante’s Ferry to Upriver	Upriver to Greene	Greene to Spokane Gage	Spokane Gage to Nine Mile
2014	-0.4	0.8	-3.7		1.1		32.5	-
2015	-	-	0.3	-1.8	-20.0		-0.5	-
2018			0.2	0.5	-9.1	-2.4	8.7	21.1

These results indicate negligible (i.e., 1 mg/day or less) unexplained loads of dichloro homologs for all portions of the river upstream of Greene St., strongly implying that significant unknown sources are absent in these areas. The reaches downstream of Greene St. show the potential for an unexplained source, with:

- two out of the three surveys showing unexplained loads of at least 8.7 mg/day between Greene St. and the Spokane USGS Gage
- the only survey with results downstream of the Spokane USGS Gage showing an unexplained load of at least 21.1 mg/day.

The mass balance assessment discussed above considered all dichloro homologs, and are not specific to PCB-11. Further assessment is needed to determine the potential for unexplained sources of PCB-11.

This task consists of conducting mass balances for PCB-11 only, on the same low flow synoptic surveys of 2014, 2015 and 2018 as shown in the table above. Mass balances would be conducted for each individual river reach for which data exist. If the in-river PCB-11 mass load is not explained by known sources, then a subsequent effort can be made to identify unknown sources.

The deliverable for this task will be a memorandum documenting the magnitude of PCB-11 loading (mg/day) from:

- Each individual known sources (i.e., Lake Coeur d'Alene, wastewater treatment plants and Latah Creek) for each of the synoptic surveys, based on direct measurement of concentrations obtained from the synoptic surveys, and
- Unexplained sources by reach, based on application of the mass balance assessment.

Cost: \$8,000.00

Groundwater/River Elevation Monitoring to Support Refined Assessment of Groundwater Contribution – Mission Reach – Hot Spot Source ID Task

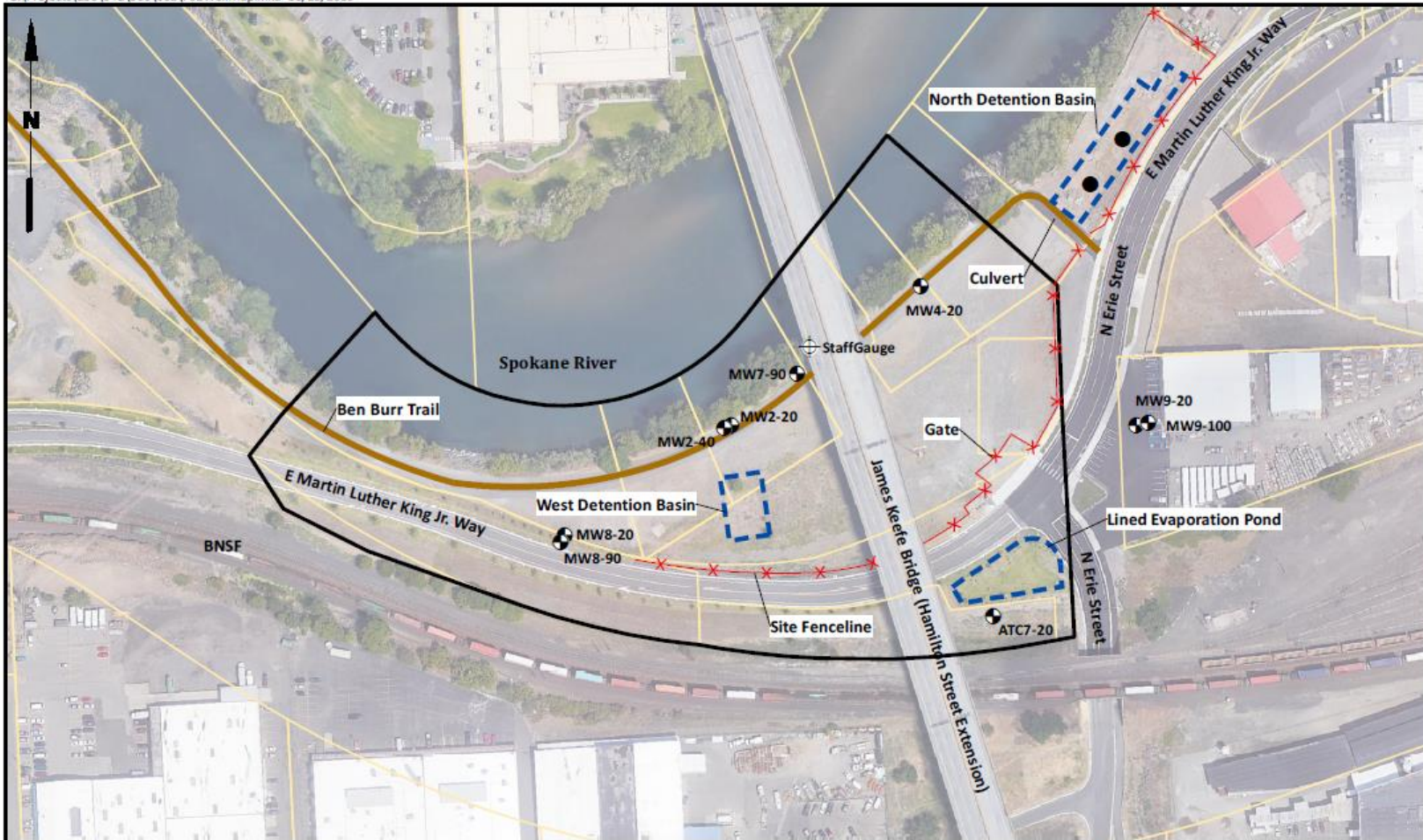
The extent of groundwater contribution to the Mission Reach is an important unknown, as groundwater inflow is necessary to provide a pathway for upland groundwater PCB contamination to reach the river. Existing coarse-scale estimates indicate that the net movement of water in the Mission Reach is from the river to the aquifer; however, sporadic well and river elevation data near Hamilton St. in the vicinity of the Spokane Valley Rathdrum Prairie Aquifer (SVRPA/Basalt interface) indicate that groundwater can enter the Mission Reach during select periods. The available data are semi-annual and are insufficient to define either the spatial or temporal extent of this groundwater contribution to the river.

The purpose of this task is to collect continuous groundwater elevation data from existing wells associated with the Hamilton Street Bridge Cleanup Site (Ecology Cleanup Site ID 3509) and concurrent river stage to develop a better understanding of river-aquifer interchange dynamics in the Mission Reach. Well and staff gage locations are shown in Figure 1. The project includes the installation of 3 pressure transducers in existing wells and one to measure river stage. Spokane County staff will implement the project which includes development of a QAPP for the data collection efforts, installation of the pressure transducers, data collection, data reporting, and submission of data to the EIM database. SRRTF will purchase the pressure transducers for the project.

Cost - \$5000.

Figure 1 – Hamilton Street Bridge Site Map

G:\Projects\236\042\060\062\F02WellMap.mxd 11/15/2019



Legend

- Current Monitoring Well
 - Drywell
 - Staff Gauge
 - Hamilton Street Bridge Site
 - Tax Parcels
- 0 200 400
Scale in Feet

Note

1. Black and white reproduction of this color original may reduce its effectiveness and lead to incorrect interpretation.

Source: Google Earth Pro, July 2019; Spokane County GIS



Hamilton Street Bridge Site Spokane, Washington	Compliance Groundwater Monitoring Well Location Map	Figure 2
--	--	--------------------

Analysis of Existing Bottom Sediment Samples from Trent Bridge

Ecology has obtained samples of natural bottom fill collected as part of pier replacement work being conducted at Trent Bridge by the Washington Department of Transportation. Visual inspection of the collected samples indicated that the substrate consisted primarily of glacial till material. These samples would be analyzed for PCB content to define the potential for natural bottom fill materials to serve as a source of PCB contamination in the Mission Reach.

Cost: \$5,000.

PMF Phase 2B

Task 2 – Holistic analysis of PMF and MLR results in conjunction with hydrologic, hydrogeologic, land use, spatial, temporal and other associated factors. The analysis will include the following:

- What are the main sources of PCBs to the Spokane River? Are they related to Aroclors or inadvertent sources? What proportion of the PCBs enter the river via groundwater, treated sewage, stormwater, etc.? This question will be addressed by matching the PMF-derived congener patterns in the water column to those of the suspected sources.
- What are the spatial trends in PCB concentrations in the River, and can they help us identify source areas? This will be addressed by mapping the PMF results for the water column.
- Conduct a mass balance by factor with data sets utilized previously to conduct the total PCB mass balance.
- Can the PMF analysis indicate the type of Aroclor responsible for the Mission reach hotspot? This will be addressed by examining the spatial distribution of PMF-derived fingerprints in the water column, sediment, and fish.
- Are PCB concentrations in various media declining over time? Is this decline experienced for all PCB sources or only some? This question will be addressed by examining time trends in the water column data.
- Are concentrations of various PCB sources in the Spokane River a function of river flow rate? If some sources (PMF factors) are affected by river flow but others are not, this fact may help us to identify the PCB sources. For example, PCBs from groundwater might be diluted at high flow, but PCBs from stormwater might increase in concentration during large rain events. This question will be addressed by analyzing the abundance of the PMF-derived fingerprints in the water column as a function of river flow rate.
- Compare the PMF-derived fingerprints in the fish with those in the water column and sediment at similar locations.
- How important is groundwater as a source of PCBs to the River? This question will be addressed by calculating a mass balance on PMF-derived PCB fingerprints (sources) at various locations, including just upstream and downstream of the suspected groundwater source, which is comprised of Aroclor 1248.
- Is degradation of PCBs occurring anywhere in the watershed? This question will be addressed by examining the PMF-derived fingerprints in water, sediment, groundwater, and municipal dischargers for fingerprints that are indicative of degradation.
- How do treatment plant upgrades affect loads of PCBs to the Spokane River? This question will be addressed by examining the PMF results from the dischargers to determine whether they decrease in abundance after the upgrade of the treatment process to membrane filtration.
- How does the Spokane River compare with other rivers for which PCB sources have been evaluated? With the strategies used in other watershed work for the Spokane River? Or is the Spokane River unique, requiring different approaches to PCB control? This will be addressed by comparing the PMF results for the water column, sediment, fish, and dischargers with those from other systems, such as the Delaware River, NY/NJ Harbor, and Duwamish River.

All spreadsheets and other work products will be provided to SRRTTF so that they may perform additional analysis of the results if they desire.

Cost: \$15,000.

PCB-sniffing dog

A pilot project in the lower Duwamish Waterway demonstrated that a trained detection dog can successfully locate PCB Hotspots. The University of Washington Conservation Canines (UWCC) program has recently trained another PCB-detection dog named Jasper. Jasper's trainer is Julie Ubigau. Through a contract with UWCC, Jasper and Julie would come out to the Mission Reach hot spot and search along the Spokane River bank area for PCBs. A high-end estimate of 3 days of Jasper and Julies' time along with travel are estimated at \$5,000. If desired, a report of their findings would need to be written by Dave Dilks of Limnotech for an additional estimated cost of \$2,000.

The outcome of this task will be a report identifying the existence of any PCB source areas that may be contributing significant sources of PCBs to the Mission Reach.

For more information on the lower Duwamish Waterway Study can be found here:

<https://spokaneriver.net/events/spokane-river-forum-conference/conference-agenda/wednesday-1045am-suzanne-replinger-presentation/>

Cost: \$7000.00

Mission Reach Hot Spot Source Identification

This project consists of a set of monitoring activities conducted concurrently during summer low flow conditions designed to identify the source of PCBs leading to the observed contamination of biofilm and fish tissue in the Mission Reach. The remainder of this document describes each of the monitoring components, followed by a discussion of deliverables, schedule, and budget.

Monitoring Components

This project consists of five monitoring components all intended to help identify the source of PCB contamination in Mission Reach:

- I. Additional water column monitoring
- II. Monitor artesian well
- III. Sub-bottom object detection survey
- IV. Bottom sediment sampling
- V. Scoping analysis of drive point piezometers to determine groundwater contribution

I. Additional Water Column Monitoring

The preliminary 2020 SPMD water column results indicate the presence of elevated water column PCB concentrations near the Mission Reach Hot Spot. This measurement was taken during summer low flow conditions at a single location where peak biofilm PCB concentrations were observed in 2018 and 2019. The spatial extent of elevated water column concentrations in the Mission Reach is currently unknown, as similarly elevated water column concentrations have not been observed at the nearest upstream (Greene St.) or downstream station (USGS Gage). No other water column PCB data are available in the direct vicinity of the hot spot.

This component consists of additional water column monitoring near the hot spot, with sufficient spatial resolution to define the areal extent of the elevated water column concentrations. This information would be beneficial in determining the absolute magnitude of the loading source, as a mass balance analysis cannot currently be conducted when the lateral extent of elevated water column concentrations is unknown. Sampling would be conducted using grab samples during summer low flow conditions. A total of fifteen stations would be sampled, consisting of four nearfield transects with lateral (i.e., near left-bank, mid-channel, and near-right bank) sampling and three downstream locations with only mid-channel sampling. The proposed nearfield sampling locations are:

- Mission Avenue Bridge
- Ecology biofilm station SR3A (location of highest observed biofilm PCBs)
- Hamilton Street Bridge
- Spokane Falls Boulevard Bridge

Mid-channel sampling locations will consist of:

- Division Street Bridge
- Maple Street Bridge
- USGS Gage

II. Monitor Artesian Well

The near-bank temperature float conducted by Ecology in Summer, 2020 identified the presence of a flowing well located on the south bank of the river between Hamilton St. and Spokane Falls Blvd. The presence of flow from this well during dry weather conditions indicates that the origin is likely groundwater. The primary reason for discounting groundwater as a source of contamination to the Mission Reach is the absence of a delivery mechanism. Because this well represents an apparent groundwater delivery mechanism, sampling it for PCB concentration would provide useful information on whether groundwater is delivering measurable quantities of PCBs to the Mission Reach.

The monitoring of this well will consist of two grab samples taken concurrently during the water column monitoring.

III. Sub-Bottom Object Detection Survey

PCB-containing objects (e.g., drums, transformers) buried in the stream bank and/or in the river bed are a hypothesized source of contamination in the Mission Reach. This task consists of using remote sensing technologies to search for the presence of these objects. The object detection survey would be conducted as part of a tiered approach, with the conduct of each following step tailored to the findings of the predecessor step. All steps would be conducted during a single survey event. The first step consists of a survey by boat with a magnetometer sensor to identify possible ferrous objects, because it is extremely likely that PCB-containing sources will be ferrous in nature. Items identified by magnetometer would be further investigated by underwater imaging (i.e., side scan sonar and/or towed video camera) to visually identify those potential sources, because many identified ferrous objects may not be significant sources of PCBs. Potential sources identified by magnetometer, but not visually identified, would receive subsequent assessment with ground penetrating radar.

The outcome of this task will be a report identifying the existence of any objects detected that may be contributing significant sources of PCBs to the Mission Reach

IV. Bottom Sediment Sampling

Contaminated bottom sediments had been largely discounted as a significant source of PCB contamination in the Mission Reach due to the general absence of sediments deposits. Field surveys conducted during March 2021 artificial fill sampling identified multiple sediment deposits occurring in the Mission Reach near the area of peak biofilm contamination. This monitoring element consists of collecting sediment samples from three separate deposits in the Mission Reach, for subsequent analysis for PCB content. The observed bed sediment PCB concentrations will be compared to the concentration expected to occur if sediments are in equilibrium with water column concentrations. The results of this comparison will indicate one of two situations:

- Bedded sediment PCB concentrations are not greater than levels expected if they were in equilibrium with water column concentrations, indicating that bedded sediments are not a source of PCBs to the River.
- Bedded sediment PCB concentrations are greater than levels expected if they were in equilibrium with water column concentrations, indicating that bedded sediments are a source of PCBs to the River.

V. Scoping Analysis of Drive Point Piezometers to Determine Groundwater Contribution

Determination of the significance of groundwater as a contributor to Mission Reach contamination has been confounded by two factors:

1. A lack of knowledge of the times and locations at which groundwater is delivered to the Mission Reach. Regional hydrologic analyses indicate that the Mission Reach is a net losing reach (i.e., the long-term average movement of water is from the river to the aquifer). However, periodic groundwater elevation monitoring near the Hamilton Street Bridge indicates that there are periods of time where the direction of flow is from the aquifer into the river.
2. A lack of data on PCB concentrations in groundwater as it enters the Mission Reach.

This monitoring element is designed to investigate the feasibility of addressing the above information gaps through the use of temporary drive point piezometers, i.e., manually installed small-diameter observation wells that can be used to collect groundwater quality samples.

The feasibility of piezometers will be assessed in Mission Reach by a limited field verification study. Specific study components consist of:

1. Establishing specific testing locations prior to field work, including establishing legal access rights. Three different testing locations will be identified.
2. Field-testing piezometer applicability in the hyporheic zone (i. e., the area of interaction between groundwater and the river) to satisfy two specific objectives. The first objective will be to verify that the site geology is amenable to the installation of drive point piezometers. The second objective is to assess the local direction of groundwater flow, by measuring groundwater conductivity and comparing it to river conductivity. If the conductivity measured by the piezometer in the hyporheic zone is similar to that of the river, that is an indication that the net movement of water is from the river to the groundwater. Conversely, if the conductivity measured by the piezometer is similar to that of the aquifer, that is an indication that the net movement of water is from the aquifer to the river.
3. Providing recommendations on the use of drive point piezometers to assess groundwater PCB concentrations entering Mission Reach.

The results of this field testing will allow the Task Force to quickly assess the potential for groundwater contamination of Mission Reach should the currently planned groundwater elevation monitoring indicate that groundwater enters the Mission Reach on a regular basis.

Deliverables

The deliverables for this task are as follows:

- Quality Assurance Project Plan (QAPP) addressing all monitoring activities. It is assumed that this QAPP will consist of an addendum to the existing biofilm QAPP, rather than development of a completely new QAPP.
- Validated water column PCB concentrations at fifteen locations in the Mission Reach, uploaded to the SRRTTF data base and Ecology's Environmental Information Management (EIM) database.
- Validated bed sediment PCB concentrations at three locations in the Mission Reach, uploaded to the SRRTTF data base and Ecology's Environmental Information Management (EIM) database.
- Validated PCB concentrations from two samples collected from the artesian well, uploaded to the SRRTTF data base and Ecology's Environmental Information Management (EIM) database.
- Technical memorandum describing the findings of Sub-Bottom Object Detection Survey.

- Technical report describing the water column, sediment, and artesian well monitoring.
- Technical memorandum describing the scoping analysis of drive point piezometers to determine groundwater contribution.

Schedule

The proposed schedule is as follows:

	July		August		September		October		November	
	1-15	16-31	1-15	16-31	1-15	16-30	1-15	16-31	1-15	16-30
Prepare draft QAPP										
QAPP approval										
Develop scopes and contracts										
Sampling										
Laboratory analysis										
Data validation and uploading										
Reporting										

Budget

The total budget for this work is \$85,000, itemized as follows:

Task	Budget
Develop QAPP	\$5,000
Develop scopes	\$7,000
Sampling	\$30,000
Laboratory analysis	\$25,000
Data validation	\$8,000
Reporting	\$10,000
Total	\$85,000

The budget above assumes that all monitoring activities would be conducted concurrently. Should the Task Force choose to authorize a subset of the activities (or want activities to be done non-concurrently), costs can be estimated as follows:

Activity	Field Budget	Laboratory Budget
Mobilization/demobilization*	\$4500	
Additional water column monitoring	\$5000	\$19000
Monitor artesian well	\$2000	\$2000
Sub-bottom object detection survey	\$9000	
Bottom sediment sampling	\$3500	\$4000
Drive point piezometers	\$6000	

*If non-concurrent sampling is desired, the mobilization/demobilization charge will be incurred for each individual sample event.

LimnoTech Scope of Work
Continuing Technical Support for Task Force
July 1, 2021 through June 30, 2023

Task 1: Task Force and Technical Track Work Group (TTWG) meetings

LimnoTech will provide technical support for the Task Force through the attendance for all full Task Force meetings and Technical Track Work Group meetings. Attendance will be phone/videoconference for the majority of the meetings, with two meetings of in-person attendance. It is anticipated that there will be no more than twenty-two full task Force meetings, sixteen TTWG meetings and four small workgroup meetings in the biennium. Full Task Force meetings are expected to be no more than 4 hours in duration and TTWG meetings are expected to be no more than 3 hours in duration.

Task 2: Continuing Technical Track Work Group (TTWG) Support

It is anticipated that the TTWG will identify technical issues that it wishes to receive input on that are not directly connected to a specific Task. LimnoTech will provide requested analyses in the format best suited to meet the needs of the TTWG, most commonly either a Technical Memorandum and/or PowerPoint presentation.

Task 3: Individual Work Group Support

LimnoTech will assist Work Groups (e.g. Fish Work Group, Database Work Group, PMF Work Group) with coordination, data analysis and/or other technical input. This work will consist of preparation for, and telephone participation in, all work group meetings; technical analyses identified during work group meetings, and/or preparation of scopes of work related to requested work group activities.

Budget

The total budget for the biennium is \$120,000, broken down by task and quarter below.

Task	7/21 -12/21	1/22 -6/22	7/22 -12/22	1/23 -6/23	Total
1: Task Force and TTWG meetings	\$10,000	\$10,000	\$10,000	\$10,000	\$40,000
2: Continuing TTWG Support	\$14,000	\$14,000	\$14,000	\$14,000	\$56,000
3: Individual Work Group Support	\$6,000	\$6,000	\$6,000	\$6,000	\$24,000
Total	\$30,000	\$30,000	\$30,000	\$30,000	\$120,000

White Bluffs Consulting Contract for SRRTTF Facilitation and Project Management Support Services

Contract Period: July 1, 2021 to June 30, 2023

Task 1 - SRRTTF Meeting Facilitation and Administration

1. Organize, schedule, and facilitate up to twelve (22) Task Force meetings to be held virtually and in the Spokane area. This effort includes:
 - a. Arranging and providing:
 - Virtual meeting platform
 - Arranging meeting venues (in person only)
 - b. Providing meeting notices and meeting materials via email notification
 - c. Developing meeting agendas in coordination with workgroup leads and other presenters
 - d. Coordinate with presenters
 - e. Attend and facilitate meetings
 - f. Preparing draft and final meeting notes
 - g. Confirming Task Force decisions and assignments from meetings
2. Post materials to the Task Force's website, as appropriate, to support the communication of Task Force meetings, and other reports or information relevant to the Task Force's efforts.

Assumptions and Cost

- Budget assumes 12 virtual and 10 in-person meetings
 - Ben – 9 hours per meeting and Lara – 16 hours per meeting
 - \$2510 for virtual meetings
 - \$3710 for in-person (includes travel expenses, ½ time travel, and mtg materials/refreshment costs)
- The cost of the meeting facilitation and administrative efforts shall not exceed \$67,220 without written authorization. Should the Task Force decide that additional meetings or a technical workshop is appropriate, the scope and budget with this element will be amended.

Task 2 - Process Management

1. Maintain the Task Force's email lists and rosters, and update website to post new information – workgroup meeting materials and summaries, updating announcements list, and email blasts to the full Task Force distribution)
2. Track progress in accomplishing the goals of the Comprehensive Plan and prepare a brief annual summary that reviews the implementation activities of the Task Force
3. Ensure that the Task Force conducts business in accordance with the Memorandum of Agreement (MOA)

Assumptions and Cost

- Task 2, item 1 - assume 8 hrs per month for Lara and 1 hour for Ben
- Task 2, item 2 - assume total of 20 hours for Lara and 8 hours for Ben
- The cost of the process management (Task 2) shall not exceed \$16,680 without written authorization

Task 3 – Work Groups Coordination

1. Work Group leads manage and coordinate the efforts of their work groups. In consultation with each Work Group lead, provide support as appropriate to each Work Group with respect to
 - a. Meeting noticing
 - b. Materials being posted to the website
 - c. Virtual meeting venues, if needed
 - d. Identifying and including items on future Task Force agendas
2. As appropriate assist Work Group leads as they coordinate with the Administrative and Contracting Entity (ACE) with respect to contract needs, contract reporting needs, and contract deliverables
3. Participate periodically in workgroup meetings and conference calls to track activities for upcoming Task Force agenda topics/approvals, and to track work progress

Assumptions and Cost

- Assume 2 hours per month for Lara
- Assume 3 hours per month for Ben
- The cost of the project coordination effort shall not exceed \$16,080 without written authorization

Total Budget: \$99,980

Daily Environmental Scope of Work for Facilitation, Coordination and Management Support Services to Technical Track Workgroup of the SRRTTF

Contract Period: July 1, 2021 to June 30, 2023

Task 1 – TTWG Meeting Facilitation, Coordination, and Preparation

Organize, schedule, and facilitate up to 16 TTWG meetings (8 per year). This effort includes:

- a. Schedule meetings, arrange virtual platform for meetings, prepare agendas in coordination with technical staff and technical advisor, provide meeting notices for posting on SRRTTF website, provide meeting materials to participants, facilitate meetings, prepare summary notes and distribute for review.
- b. Preparation – Work with Technical Advisor, new work group lead, other technical staff to produce technical meeting materials and presentations. Coordinate and schedule consultant presentations and educational materials for TTWG for decision making.

Assumptions and Cost

- Budget assumes 16, 2 hour meetings: half virtual and half in-person
- All travel costs for in-person meetings will be charged to SRSP (coordinate dates of meetings)
- Does not include time to review technical reports or memoranda generated from TTWG projects (SRSP task)
- The cost of the meeting facilitation and administrative efforts shall not exceed \$51,200 without written authorization. Should the Task Force decide that additional TTWG meetings or a technical workshop is appropriate, the scope and budget with this element will be amended.

Task 2 - Process Management

Meetings and calls with White Bluffs and other work group leads to coordinate on work planning and TTWG components of TF meetings. Includes biennial workplan coordination meetings with work group leads.

Assumptions and Cost

- Not to exceed 0.5 hours per month (on average).
- The cost of the process management (Task 2) shall not exceed \$1,920.00 without written authorization

Task 3 – Smaller Work Groups Coordination/Facilitation

Facilitation, Coordination and Preparation for small work group meetings to address short-term needs on specific projects, and to conduct technical brainstorming sessions (eg., Mission Strategy Group, or other as applicable to real-time TTWG needs).

Assumptions and Cost

- One virtual small (TTWG subgroup) working group meeting per three months on average. Not to EXCEED 4 working group meetings per year or 8 working group meetings in the biennium.
- Treatment Technology working group is not included in this estimate (facilitated through SRSP or other)
- The cost of the project coordination effort shall not exceed \$5120. without written authorization

Task 4 – Technical Assistance

Review Scopes of work and budgets associated with TTWG tasks. Assist in consultant selection on TTWG sponsored projects. Coordinate with LimnoTech on technical project scopes of work.

Assumptions and Cost

- Does not include review of reports and memos generated through TTWG projects (SRSP task)
- The cost of the technical assistance task shall not exceed \$3840. without written authorization

Total Budget: \$62,080. (24 hours per month on average)

TTWG Facilitation and Coordination Budget (July 2021 through June 2023)

TASK	COST
1. TTWG Meetings Coordination/Facilitation	
Meeting Coordination, Facilitation, Preparation (not to exceed 16 meetings in the biennium)	\$ 51,200
2. Process Management	
NOT TO EXCEED 1 0.5 hour meeting per month	\$ 1,920
3. Smaller Work Group Coordination/Facilitation	
Mission Strategy Group or other as applicable to TTWG. Not to exceed 4 working group meetings per year, 8 per biennium.	\$ 5,120
4. Technical Assistance	
Review scopes of work and budgets associated with TTWG tasks. Assist in consultant selection on TTWG sponsored projects. Coordinate with LimnoTech on technical project scopes of work.	\$ 3,840
TOTAL	\$ 62,080