

SRRTTF

Overview of Technical Work

December 4, 1013

Outline

- Project Phasing
- Phase 1
 - Tasks
 - Activities completed
- Looking Forward



Project Phasing

- Phase 1
 - Gather existing data, identify data gaps
 - Recommend modeling tool
 - Prepare a monitoring plan
- Phase 2
 - Collect new data
- Phase 3
 - Analyze data and characterize sources
- Phase 4
 - Assess potential BMPs and develop Comprehensive Plan



Original Schedule

Phase	Period of Performance
1: Data Review, Monitoring Design	April, 2013 - March, 2014
2: Field Monitoring	June, 2014 - May, 2015
3: Analyze data and characterize sources	June, 2015 - February, 2016
4: Development of Comprehensive Plan	March, 2016 - December, 2016



Phase 1 Tasks

- Technical Consultant Work Plan
- Data Request Memo
- Review of Standard Operating Procedures
- Collection of Existing Data
- Data Review and Evaluation
- Data Gap Identification
- Review of Modeling Tools
- Data Collection Strategy
- Quality Assurance Project Plan/Sampling and Analysis Plan
- Scoping for Future Phases



Task 1: Technical Consultant Work Plan

- Update the existing SRRTTF First Draft Work Plan to make it a formal Technical Consultant Work Plan
- Provide a more general description of tasks for Phases 2 through 4
- Status: Completed



Task 2: Data Request Memo

- Technical memorandum listing all of the information required to define existing PCB and dioxin sources, loads and sinks
- Identify all data that has already been obtained, as well as other known and potential sources
- Status: Completed



Task 3: Standard Operating Procedures

- Review the standard operating procedures for data analysis and collection currently employed by all agencies collecting data that may be used during this project
- Identify inconsistencies between existing QAPPs
- Status: Completed



Task 4: Collection of Existing Data

- Contact all data sources identified in the final Data Request memorandum
- Maintain log documenting all calls/ e-mails/visits and the information obtained from each source contacted
- Status: Completed



Task 4: Data Contact Log



Spokane River Regional Toxics Task Force PCB Implementation Plan Contacts Log

Phase 1, Task 4: Collection of Existing Data
August 26, 2023

Contact Name	Agency/Company	Phone	Email	Data to Ask About	Notes on Contact, Data Available, etc.
Daniel Redline	Idaho DEQ	208-666-4621	daniel.redline@ideq.idaho.gov	<p>Wastewater treatment plant loads</p> <p>Stormwater loads</p> <p>Water column measurement of PCB and dioxin concentrations</p> <p>Wastewater treatment plant loads</p> <p>Results of survey of industrial practices</p> <p>Spokane River and tribs water column measurements (temp, TSS, POC and DOC)</p> <p>Hydrodynamic and/or WQ models</p> <p>River/lake bed sediment PCB and dioxin concentrations</p> <p>Sediment trap measurements</p> <p>Sediment isotope profiles</p> <p>Pollutant specific degradation rates in bed sediments</p>	<p>Spoke to Dan 5/24. EPA issues permits and has just started to require monitoring of PCBs/dioxins in WWTP effluent so there will be no historic data. contact for NPDES permitting in EPA is Brian Nickel</p> <p>Ecology has PCB fish and sediment data from Priest Lake in Idaho (Bonner County); collected by Toxics/RCRA unit out of Olympia (report saved on network under Task 2 (Ecology 2011); goal was to establish background data for NE WA and Priest Lake was a reference site; no sites in Spokane river watershed</p> <p>Avery Landing remediation site on St. Joe River (trib to Lake Cour d'Alene) EPA study solids data? No info on DEQ site but contact is: Michael McCurdy General Remediation 208-373-0188 michael.mccurdy@ideq.idaho.gov</p>
Doug Krapas	Inland Empire Paper	509-924-1911	dougekrapas	<p>Wastewater treatment plant loads</p> <p>Number and size of paper recyclers</p>	Called Doug on 6/3 while he was on vacation and followed up on 6/11. Doug provided effluent data in July.
Elle Key	Washington Department of Ecology; Eastern Regional Office (Spokane)	509-329-3519	elle.key@ecy.wa.gov	<p>Wastewater treatment plant loads</p> <p>Results of survey of industrial practices</p>	Spoke to Elle on 6/4. She provided the analytical results associated with the permits from the City of Spokane, Spokane County, and Liberty Lake.
Fred Bergdorf	Washington State Department of Transportation	360-370-6648	bergdorf@wsdot.wa.gov	Stormwater loads	Talked to Fred on 5/21. WSDOT is just developing a monitoring program and have a monitoring location at I-90 and Fines. They will be submitting a report to Ecology in October, however it will not include PCBs.
Ginny Darrell	Washington State Department of Ecology; Toxic Cleanup Program	509-329-3431	gdar461@ecy.wa.gov	<p>Soil PCB and dioxin concentration</p> <p>Other hydrodynamic and/or water quality models</p> <p>River/lake bed sediment PCB and dioxin concentrations</p>	Spoke with Ginny on 6/10. We sent Ginny a list of state and federal cleanup sites from the Ecology Facility/Sites database. She noted which sites have PCBs and the cleanup status of each of the sites.
Greg Filibert	Washington State Department of Ecology; Air Quality Program	509-329-3452	gregory.filibert@ecy.wa.gov	<p>Atmospheric gas phase PCB concentrations</p> <p>Measured atmospheric deposition rates for dioxin</p> <p>Yard waste burning studies</p> <p>PCB and Dioxin emissions from incineration activities</p> <p>Number and size of incinerators</p>	Greg says he doesn't have jurisdiction over Spokane area so he recommended people to contact for everything next to his name
Greg Lahti	Washington State Department of Transportation	509-324-6138	lahti@wsdot.wa.gov	Stormwater loads	Talked to Greg on 5/14. He directed me to Dick Gersib, the head of the monitoring group at WSDOT.
Guy Gregory	Washington State Department of Ecology; Water Resources Division	509-329-3562	ggre461@ecy.wa.gov	<p>Dam release information</p> <p>Stream flow information</p> <p>USGS (2007) groundwater/flow model</p> <p>Other groundwater flow/information/models</p> <p>PCB/dioxin concentrations in groundwater</p>	Talked to Guy on 5/28. He passed along several relevant hydrology studies related surface water/groundwater interface, instream flows, and directed me to an Avista website regarding the Spokane River. He also indicated a willingness to help us track down additional data as needed.
Holly Davies	Clean Action Plan for PCBs	360-407-7398	holly.davies@ecy.wa.gov	<p>Number of commercial buildings constructed between 1950 and 1980 waiting to hear back from Spokane county assessor; focus is on caulk</p> <p>PCB content of caulk on commercial buildings (and streets?) focus will likely be on masonry, not inside or in streets/bridges, etc.; through study in Duwamish shows 50% of commercial bldgs contain PCBs in masonry caulk</p> <p>Large scale transformers and capacitors still waiting on dataset; working with electric company; EPA only has a few in database; possibly schools contain light ballasts with PCBs in them but not a priority for Holly right now</p>	<p>Talked to Holly 5/24. She doesn't have any data, but mentioned some datasets she is working on but does not have yet:</p> <ul style="list-style-type: none"> Motor oil Long term auto fluff project but having trouble sampling Spills Ink (Inland Empire pulp mill) Titanium dioxide generation <p>Also see notes in bold to the left</p> <p>Minim Diamond lab at U of Toronto has modeling data MUM model Looks like it's only in Toronto/Lake Ontario</p>
Kary Peterson	Ecology; Agricultural burning	509-329-3523	kape461@ecy.wa.gov	Yard waste burning studies	State has no jurisdiction over air quality for Spokane County. It's all handled by the SRCAA
Kevin Booth	Avista		kevin.booth@avistacorp.com	Large Scale Transformers and Capacitors	Left message for Kevin regarding PCB transformers. Kevin replied with a voicemail on 6/26, indicating that Avista has removed all large transformers in EPA database.
Lynne Schmidt	City of Spokane Wastewater Management	509-625-7908	lschmidt@spokanecity.org	<p>WWTP loads</p> <p>Stormwater loads</p> <p>PCBs in stormwater</p>	Lynn provided a CD of data at SRRTTF meeting on 4/3. Talked to Lynn again on 5/8. She provided additional GIS data for catch basin delineation.
Meghan Lunney	Avista	509-495-4643	meghan.lunney@avista.corp.com	<p>River/Lake Bed sediment properties</p> <p>Dam release information</p>	Spoke with Megan in April 2013. She briefly described dam information and noted that Steve Ashe would be available to discuss in detail the operation of the dams. USGS has flow data. Avista does not have core data, and all of their analytical results are in the Ecology EIM database. May follow up with Steve Ashe as needed.

Task 5: Data Review and Evaluation

- Evaluate the quality and credibility of the data
- Review data for inconsistencies
- Place all data in a database
- Status: Completed
 - Format consistent with Ecology's Environmental Information Management (EIM) system



Task 5: Data Review



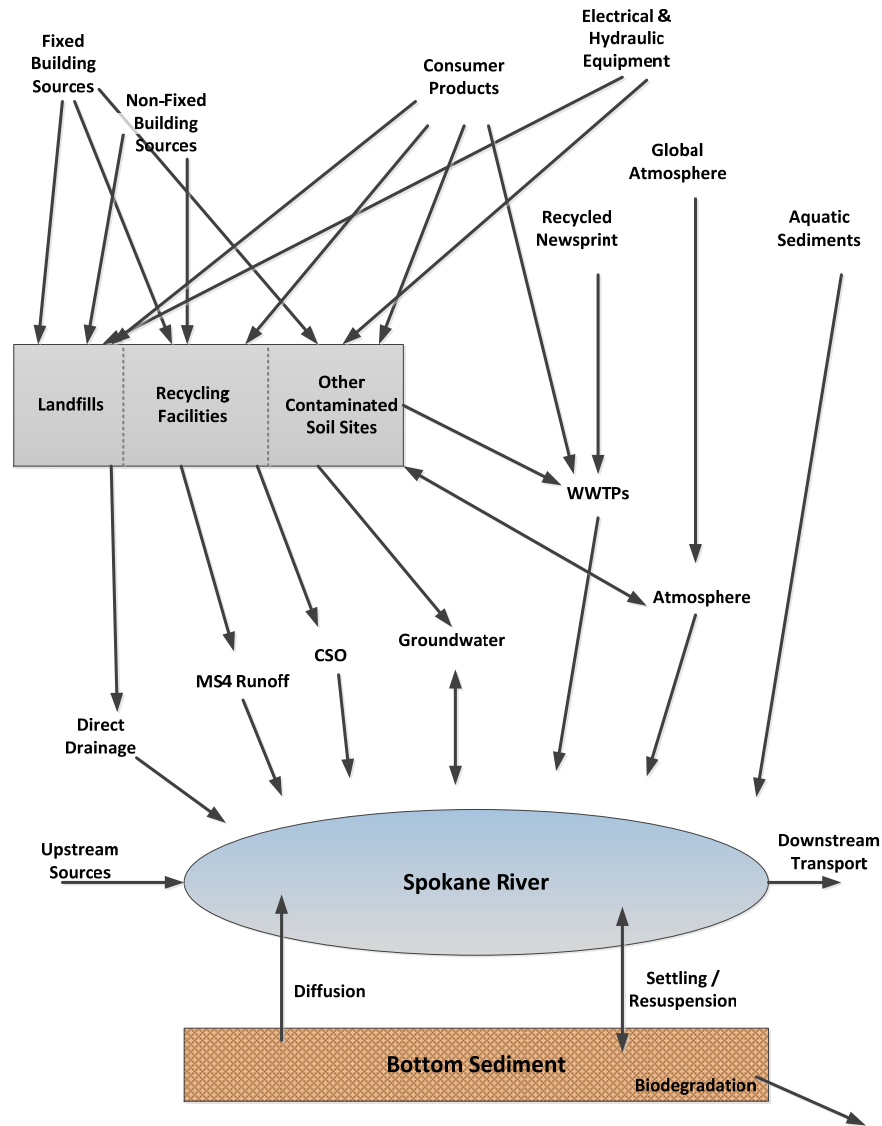
Item Number	Data Category	Dataset	Data Source (agency)	Reliable Source	Data Quality Category	Aroclor Only Flag	Data Appropriateness	Quality/Appropriateness Notes
21	Wastewater treatment plant loads	Spokane County influent and effluent flows and PCB results	Ellie Key (Washington Department of Ecology; Eastern Regional Office (Spokane), Rob Lindsay (Spokane County))	x	A		Appropriate	Data verification requirements included in QAPP
22	PCBs in fish tissue	Washington State Toxics Monitoring Program: Exploratory Monitoring 2006	Ecology--Downloaded from EIM	x	A		Appropriate	EIM note: Level 5 - Data Verified and Assessed for Usability in a Peer-Reviewed Study Report
23	PCBs in fish tissue	1999 Spokane River fish and crayfish PCBs and METALS	Ecology--Downloaded from EIM	x	B	x	Appropriate	EIM note: Level 4 - Data Verified and Assessed for Usability in a Formal Study Report. Limited congener data available.
24	PCBs in stormwater/Water column measurements of PCB and dioxin concentrations	Spokane River PCB and Source Survey, August 2000	Ecology--Downloaded from EIM	x	B		Appropriate	EIM note: Level 5 - Data Verified and Assessed for Usability in a Peer-Reviewed Study Report
25	PCBs in fish tissue	Metals and PCBs in Long Lake Fish	Ecology--Downloaded from EIM	x	B		Appropriate	EIM note: Level 5 - Data Verified and Assessed for Usability in a Peer-Reviewed Study Report
26	Wastewater treatment plant	Spokane Area Point Source PCB	Ecology--Downloaded from EIM	x	B		Appropriate	EIM note: Level 4 - Data Verified and Assessed for

Task 6: Data Gap Identification

- Determine where information gaps exist
 1. Develop conceptual models
 2. Identify data gaps that must be filled to accurately quantify pollutant sources and sinks
- Status: Completed

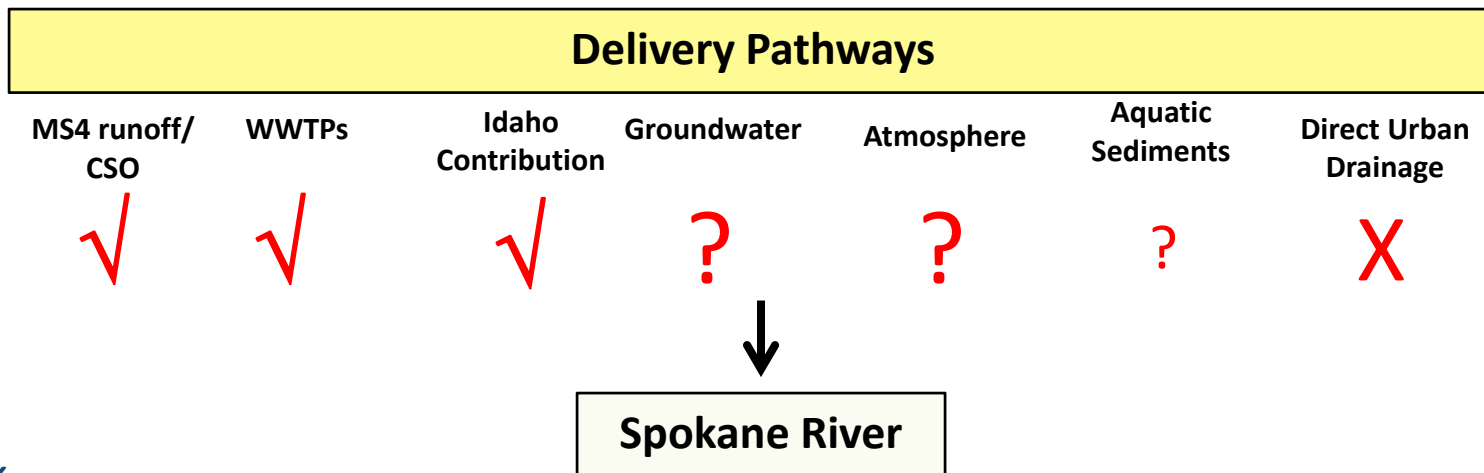


Task 6: Conceptual Model



Task 6: Data Gap Assessment

Conclusion: We have a general understanding of which categories of source loading are important



Key:

✓ = known significant contributor

? = unknown, potentially significant contributor

? = unknown, likely insignificant contributor

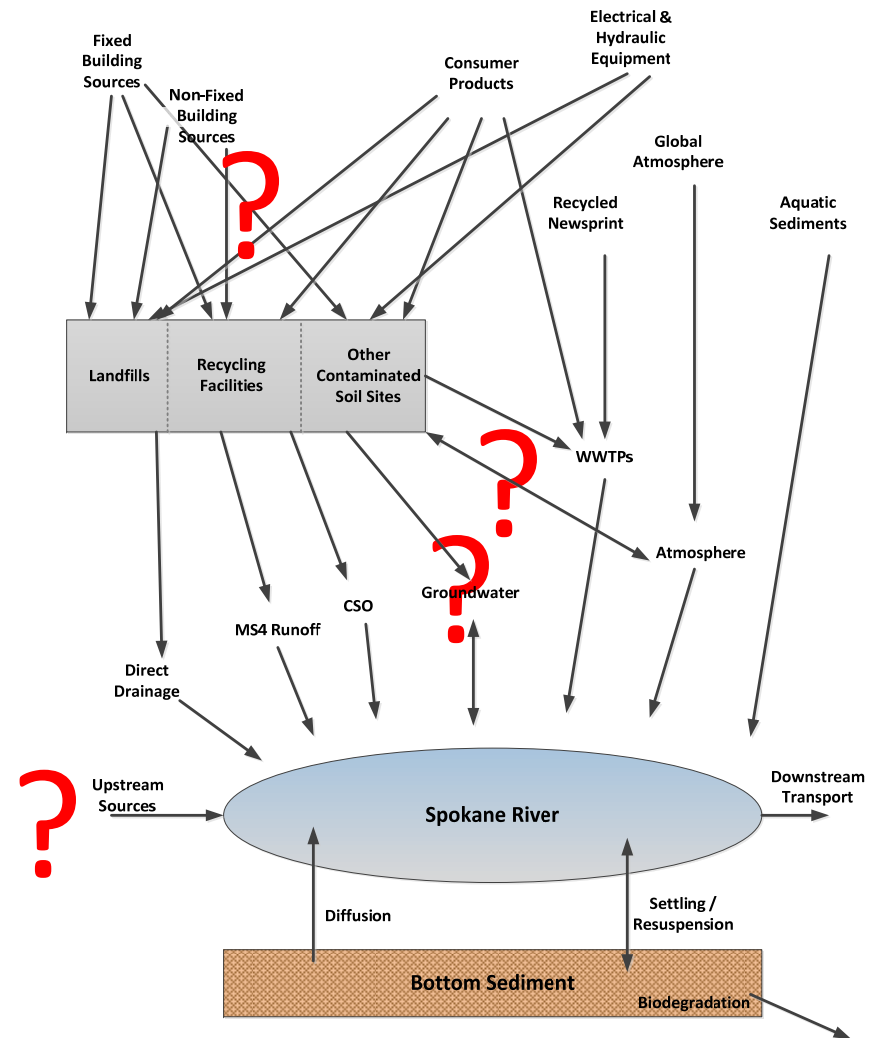
X = known insignificant contributor



Data Gap Assessment: Where do we need more data?



- Identifying “true sources” and their delivery route
- Sources upstream of the ID/WA border
- Groundwater contribution
- Significance of loading from atmosphere



Task 7: Review of Modeling Tools

- Compile all relevant models
- Describe each model's capabilities, data needs, advantages, and disadvantages.
- Recommend which models are most suitable for use in future phases
- Status: Draft version prepared
 - Assumes spatial domain covers entire system
 - Assumes water column only, not fish



Task 8: Data Collection Strategy

- Define sampling parameters, locations, frequency, and parties responsible for collection of the data
- Status: Draft memorandum completed



Task 8: Data Collection Strategy

- Key information gained from data gap review
 - **We are not going to be able to collect enough monitoring data in one year to fully understand:**
 - True PCB sources and their delivery to storm water
 - Atmospheric recycling of local sources
 - We can collect enough information to:
 - Bolster the mass balance assessment from major source categories
 - Determine groundwater contribution
 - Support water quality model



Task 8: Data Collection Strategy

- Initial monitoring recommendations
 - Baseline Monitoring
 - Routine dry weather monitoring upstream of Lake Spokane to supplement the mass balance assessment
 - Supplemental downstream monitoring to provide data necessary to support downstream water quality modeling efforts



Task 8: Data Collection Strategy

- Initial monitoring recommendations
 - Discretionary Special Studies
 - Wet weather sampling in the Spokane River to estimate PCB loads delivered during storm events
 - Additional sampling within the Spokane storm water system, designed to better define true sources
 - Sampling of PCB concentrations in biota, to supplement pattern tracing efforts and to support a revised assessment of bioaccumulation
 - Research on atmospheric PCB cycling and contribution to watershed



Task 9: QAPP/Sampling and Analysis Plan

- Quality Assurance Project Plan (QAPP)
 - Quality procedures, criteria and corrective actions associated with the sampling and analysis program.
- Sampling and Analysis Plan (SAP)
 - Objectives, sampling locations, sampling methods, analytical parameters and protocols, and data management
- Status: Not started
 - Contingent upon completion of data collection strategy



Task 10: Scoping for Future Phases

- Prepare Detailed Scope, Schedule, Budget for Phase 2
 - Consistent with the QAPP and SAP
- Provide Refined Schedules and Budgets for Phases 3 and 4
 - Update the estimates from Task 1 with information gained during the course of the first phase
- Status: Not started
 - Contingent upon completion of data collection strategy



Looking Forward

- Decisions made now on the monitoring plan will largely dictate the future direction of this work
- Many unresolved questions remain, e.g.
 - How do we implement a phased approach?
- This workshop provides great opportunity to:
 - Solicit expert input
 - Attain consensus on future direction

