**Spokane River Regional Toxics Task Force**

**Coordinated Responseto EPA Regarding the Remand from Judge Rothstein**

**DRAFT: May 27, 2015**

The following information is provided as a coordinated response from the Spokane River Regional Toxics Task Force (SRRTTF) to the request by EPA to provide information associated with Judge Rothstein’s order.

**Framework for the Toxics Task Force**

In 2011, the Department of Ecology (Ecology) issued NPDES permits for all Spokane River wastewater dischargers in Washington, including the new Spokane County wastewater treatment facility. These permits require that performance-based PCB limits be established within the first permit cycle and require participation in the Toxics Task Force. The goal of the Task Force will be to develop a comprehensive plan to bring the Spokane River into compliance with applicable water quality standards for PCBs.

The NPDES permits specify that if Ecology determines that the Task Force is failing to make measurable progress toward meeting applicable water quality criteria for PCBs, Ecology would be obligated to proceed with the development of a TMDL in the Spokane River for PCBs, or determine an alternative to ensure water quality standards are met.

In 2015, EPA issued permit for the dischargers in Idaho requiring participation in the Task Force.

In addition to the NPDES permittees, members participating in the SRRTTF include conservation and environmental interests including Lake Spokane Association, Spokane Riverkeeper and the Lands Council; Spokane Regional Health District; Ecology; Idaho DEQ; Washington State Department of Health; the Coeur d’Alene Tribe;;and USEPA. By late 2012, the Task Force was sufficiently organized so that it could begin functioning, they developed an MOA (Attachment A), a funding entity, and procured a national expert as a community technical advisor for the important work it was undertaking.

**Background: Early PCB Investigations Unveiled Significant Data Gaps**

In April 2011,Ecology published a PCB Source Assessment for the Spokane River. This report relied on data collected between 2003 and 2007using various sampling methods. The analysis of data collected provided the followinginformation as the then current understanding of PCB conditions related to the Spokane River (the river).

* The report calculated PCBs crossing the Idaho/Washington state line to be approximately 477 mg/day
* Between the Idaho/Washington state line andLong Lake Dam, approximately 3,187 mg/day of PCBs wereestimated to be entering the river
* Measured discharges from Washington point sources (NPDES Permit Holders) accounted for about 307 mg/day of PCBs
* Tributaries to the Spokane River accounted for 97 mg/day of PCBs
* 690 mg/day[[1]](#footnote-1)of PCBs were estimated to be entering the River from the City of Spokane’s stormwater system.

In summary, the 2011 report findings indicated that at least 66% of the PCB sources measured in the River were unknown, and much of these data were uncertain.

**Development of the PCB Reduction Work Planis Designedto Fill in Data Gaps and Identify Actions to Meet Water Quality Standards**

In order to achieve their goal of developing a comprehensive plan to bring the Spokane River into compliance, the Task Force developed and adopted an initial Work Plan in 2012 (Attachment B), setting forth the common vision of the Task Force members, identifying the anticipated work necessary to accurately identify primary sources of PCBs, and the schedule for the completion of that work. The Task Force is currently on schedule with the work, and is working towards achieving measurable progress in the the reduction of PCBs in the Spokane River.

**Initial Task Force Actions**

The Task Force organized the work plan by breaking the work out into Phases 1-4. In April 2013, the Task Force engaged LimnoTech, a firm with expertise on the fate and transport of PCBs, as a technical advisor to assist with the development of an initial scope of work for its technical efforts.

Phase 1

These initial efforts included compilation of all PCB data that may be relevant for characterizing either potential PCB source contribution or instream PCB conditions, review and evaluation of the compiled data for future use, an analysis of the data to identify data gaps that were critical to developing a clear understanding of current conditions, the development of a data collection strategy, the companion sampling, analysis, and quality assurance plans.

*Existing PCB Data Compilation*

An inventory of existing groundwater, stormwater, point source discharges, and river and lake sampling data was compiled and included information that was publically available (Ecology publications and open literature) as well as data from other known public and private sources and all Task Force members. These data wereplaced into a data base for future use.

*Review and Evaluation of Compiled Data*

Once the data compilation effort had been completed, the data were reviewed and characterized based on quality and usability with respect to potential source identification, source delivery pathways to the river, and instream fate and transport.

*Data Gap Analysis*

An inventory of missing information (data gaps) was developed using a conceptual model for the river that considered potential sources and source pathways. This model covered the river from its origin at the outlet of Lake Coeur d’Alene to Nine Mile Dam, below the Spokane urban area.Four main data gaps were identified:

* The magnitude of true sources contributing to stormwater loads
* The sources between the outlet of Lake Coeur d’Alene and the Idaho/Washington state line
* Loading from atmospheric sources
* Loading from groundwater sources

*Data Collection Strategy*

Based upon the identified data gaps, the initial “Phase 2” data collection strategy was developed to focus on dry weather monitoring of the Spokane River between the outlet of Lake Coeur d’Alene and Nine Mile Dam so that the loading from groundwater sources could be quantified as well as the loading from sources in Idaho. The data collection strategy for the dry weather monitoring (baseline monitoring) included all point sources as well as all river and tributary locations where flow was either measured or calculated. This strategy allowed the development of mass balances for each river segment between river flow gages so that the contribution of PCB loads via groundwater could be determined. Once groundwater contributions were quantified, monitoring during wet weather conditions would allow quantification of stormwater loads.

As a part of the initial data collection strategy, sampling, analysis, and quality assurance plans were developed and reviewed by the Task Force members and approved by Ecology, Idaho DEQ and EPA. Data collection and associated sampling, analysis and quality assurance were especially challenging due to the exceedingly low concentrations of PCBs in the water column and the absence of known sediment sources in the Spokane River. The Task Force’s work in measuring PCBs at these low levels is precedent setting given that the concentration levels being measured are similar to those found in laboratory blanks. In order to minimize potential sample collection issues, the sampling plan specified that all samples would be collected in the same manner to the maximum extent possible. In addition, an overall quality assurance plan for sample collection and analysis was developed. All sampling was conducted over a fairly short time period (synoptic) so that a contemporaneous “snapshot” of the river from the outlet of Lake Coeur d’Alene to Nine Mile Dam could be obtained.

**Phase 2**

**Dry Weather Synoptic Sampling Event in 2014: the First Comprehensive Analysis**

In August 2014,the Task Force, through its contractors and technical advisor, implemented its data collection strategy by conducting a synoptic sampling event. This event represents the first comprehensive data collection effort that had been performed on the Spokane River for PCB loading between the outlet of Lake Coeur d’Alene to Nine Mile Dam. This sampling event resulted in the collection of approximately 70 water samples from both instream locations as well as point sources and flow data at each river segment. In addition to PCBs, analyses were also conducted for at least six other general water quality parameters.

Previous studies did not assess groundwater flow and associated PCB loading from groundwater sources. Initial analysis of new data highlight a few noteworthy findings that bare on the reduction of PCBs in the Spokane River.

* Between the Barker Road and the Trent Avenue Bridge sampling locations on the river, river flow increased by an average rate of 362 million gallons per day over the two week monitoring period due to groundwater flowing into the river
* From the mass balance calculations for this segment of the river (Barker Road to Trent Avenue Bridge) the average PCB loading to the river was about 273 mg/day
* The PCB loading from groundwater flowing into the river for this segment of the river represented the single largest mass source (mg/day) measured during the synoptic sampling event
* Although river flow data at the Greene Street gage could not be collected during the sampling event, flow estimates for that location indicate the possibility that a second segment (Greene Street to Spokane Gage) may exist where groundwater flow into the river could be contributing a PCB load.

The Task Force has completed approximately half of the Phase 2 data collection work to address data gaps and to create an adequate data set to characterize and quantify PCB sources. It is anticipated that this step will be completed by XXX. This data collection phase also needs to evaluate wet season contributions to the Spokane River to determine seasonal variations in PCB loadings. In addition, the concentration of PCBs in groundwater needs to be measured across the Rathdrum Prairie Spokane Valley Aquifer to better estimate PCB loading into the Spokane River and Little Spokane River. Finally, the effect of aerial deposition as a potential source needs to be evaluated to characterize whether aerial deposition is a significant source of PCBs into the Spokane River.

*Phase 3*

In Phase 3, the Task Force will characterize and quantify the identified sources of PCBs entering the Spokane River. This phase will be completed by XXX. It is anticipated that these sources will include all of the point sources such as the wastewater treatment facilities that discharge to the Spokane River.Also included will be consideration of non-point sources such as stormwater, groundwater, and perhaps aerial deposition.

The characterization of the point sources will include an evaluation of the PCB reduction measures that are anticipated to result as each wastewater treatment facility implements their next level of treatment as required under their NPDES permits to comply with the Spokane River Dissolved Oxygen TMDL.

*Phase 4*

In Phase 4 of the initial Work Plan, the Task Force will summarize the identified sources of PCBs into the Spokane River. For each identified source, a range of Best Management Practices (BMPs) that can eliminate or reduce the source of the PCBs will be identified with recommendations for implementation. This phase will be completed by XXX.

*Later Steps*

**What are the steps beyond these of the Task Force? This should be described. How will the Task Force be implementing or overseeing implementation of reduction measures?**

**Task Force Maintains the Focus on PCB Sources and their Reduction and Elimination**

Based on the information developed thus far, the Task Force is currently implementing a number of actions to address potential PCB sources:

* As a result of the analysis of the data generated from the synoptic sampling event, the Task Force has authorized its technical advisor to determine what studies would be needed to identify sources that could be contributing PCBs to the groundwater flowing into the river.This will in turn direct efforts for source removal.
* On a parallel track with the technical analyses, the Task Force and Task Force members are identifying and eliminatingPCB contributions from stormwater runoff sources and stormwater vactor waste.
* We are funding the establishment and maintenance of stream gages on the Spokane River to understand river flow in areaswhere significant PCB loading has been observed to occur.
* We have also been involved in product testing to identify products found to have the greatest concentrations of PCBs. This is important as these PCB sources may contribute significant loading to the Spokane River. For example, the Task Force is currently preparing to sample and analyze hydroseed samples used on road construction projects in Washington State.
* We are currently preparing to sample and test for PCB concentrations in the tissue of hatchery fish used to stock the river.

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* Following the lead of recent revisions to Washington state procurement procedures, several Task Force municipalities have also approved similarpolicies whichallow for the preferential purchase of products (or products with packaging) that do not contain PCBs above established thresholds.
* Task Force members are conducting additional “track down” studies to identify specific sources of PCB concentrations.
* Given the very high level of “inadvertently produced” PCBs allowable in products through the Toxics Substances Control Act (TSCA), the Task Force also realizes the importance of eliminating this TSCA allowance and is continuing to work together with the EPA and local and federal legislators to achieve this end.
* The Task Force members are collaborating on public outreach activities to engage the Spokane Community and reduce the usage of products containing inadvertently produced PCBs that enter the waste stream.
* Technical workshops? Brought in experts from around U.S.

**Funding**

Describe the amount of dischargers and state funding that has been leveraged to this effort as a result of the Task Force.

**Significant and Costly Treatment Process Upgrades are Already Proceeding**

The NPDES permits for the regional treatment facilities discharging to the Spokane River require that the next level of treatment be installed and then optimized by the year 2021 for Washington permit holders and 2024 for Idaho permit holders. The next level of treatment will include sophisticated filtration technology such as membrane filters. This technology will potentially improve the PCB removal efficiency up to 99% and is anticipated to cost a total of $\_\_\_. The Spokane County wastewater treatment facility, which became operational in December 2011, has demonstrated that membrane filtration technologies are capable of removing up to 99% of PCBs from municipal wastewater facilities. Permittees are already removing PCBs from their discharge with current treatment technology. A summary of PCBs currently being removed from municipal and industrial wastewater is provided as Attachment C.

*[Note: In addition to Attachments A through C, individual members of the Task Force will submit supporting attachments to this coordinated response directly to the EPA.]*

Additional and ancillary SRRTTF Activities Required of Members

**Attachments**

Attachment A – SRRTTF MOA

Attachment B–SRRTTF Initial Work Plan (2012)

Attachment C – Permittee PCB Reduction Activities to Date

1. Recent sampling and analyses show the estimated stormwater contribution of PCBs from the City of Spokane are actually approximately 46 mg/day. [↑](#footnote-ref-1)