

LIST OF PROPOSED PROJECTS FOR ECOLOGY ENVIRONMENTAL ASSESSMENT FY 2015
For SRRTTF Prioritization, December 18, 2013

Water Quality Improvement Project Proposals

New

A. Project Title

Wet and Dry Deposition of PCB in the Spokane River Watershed

Description

The current assessment report by Ecology for the Spokane River showed that the largest identifiable contributor of PCB to the river was stormwater. A 2011 literature review prepared by Ecology included information of the level of PCB in stormwater samples at levels thousands of times higher than the Tribal water quality standard. One of the potential contributors of PCB in stormwater is likely wet and dry deposition. The collection of wet and dry deposition data for PCB would provide information on PCB levels that would actually be reaching runoff surfaces. If coordinated with wet weather river sampling, this data could provide some perspective on the relative amount of PCB in runoff that may originate from deposition as opposed to existing land use sources. In addition, if multiple locations were monitored for wet and dry deposition, a better understanding of local source contribution could be gained.

B. Project Title

Seasonal Variability in Spokane River Headwaters PCB Loading

Description

The current assessment report by Ecology for the Spokane River contains SPMD data at specific locations at varying times of the study year. If this concentration data is paired with the actual flow data for the SPMD deployment period a very high percentage of the mass loading of PCB occurred during the spring snowmelt runoff period. In order to gain a better understanding of season variability in PCB river levels, weekly grab samples could be collected at the Lake Coeur d'Alene discharge gauging station on a weekly basis. These weekly samples could be composited into a monthly average PCB river concentration on a flow proportional basis using the gauging station data on flow.

C. Project Title

Sampling Activities for Spokane River Synoptic Studies

Description

Assist the Spokane River Regional Toxics Task Force with the collection of samples associated with Spokane River Baseline and source identification studies.

D. Project Title

Spokane River Water Quality Monitoring Long Term Trends Analysis

Description

Establish a relevant long-term Spokane River Water Quality monitoring plan for the purpose of trends monitoring in the Spokane River Main Stem. Obtain baseline information at reference points.

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Submitted for FY 2014

E. Project Title

Assessment of PCB Concentrations in Spokane Valley Groundwater

Description

The Spokane River Regional Toxics Task Force is in the process of assessing the contributions of PCB to the river load. More than half of the PCB loading to the river is unaccounted for. A better understanding of the affect of groundwater on PCB loadings to the river is needed. Monitoring wells are already in place in the Spokane aquifer that could be used to sample and evaluate levels of PCB in groundwater. This project would consist of two parts:

I) Planning phase (year 1): Identify and evaluate existing data and data resources; coordinate with the recommendations from the SRRTTF Technical Consultant regarding PCB model inputs and data availability from other monitoring efforts (i.e., USGS NAWQA) and data gaps/needs; define the scope and SOP's (i.e., coordinate with the SRRTTF on methodologies); so data can be used to identify/estimate PCB inputs and loads to the Spokane River from ground water.

II) Implementation phase: This phase would be best completed beginning year two in order to coordinate with the recommendations of the SRRTTF Technical consultant regarding data gaps and modeling of the PCB inputs to the river. Focus initial efforts on monitoring/sampling locations that are the most relevant for estimating PCB loading (i.e., gaining reaches). Funding will be needed for project design, sampling, chemical analysis, and characterization of the PCB in the groundwater.

F. Project Title: Aerial Deposition of PCB

Description

This project is a follow up to the 2011 literature review about air deposition of toxic chemicals (PCB, PBDE, PCDD/Fs, and mercury) and its contribution to their loading in the Spokane River. Sources of these chemicals can be local, regional, or global and transported in the atmosphere before deposition. There is limited data on this for Washington State and none for Eastern Washington. This project would coordinate with other Ecology departments and the local air pollution control district to collect data about PCB deposition.

Existing air monitoring locations can be used to collect ambient air samples. 1) An initial assessment of PCB quantities and types (congeners) of PCB in the air can be made using filters that are already being collected by the local air district. This information could be used to characterize PCB being deposited in the watershed and/or identify if alternative sampling methods are warranted. 2) Other sampling protocols may be warranted (such as collecting air samples on XAD resin) depending on the initial assessment. The ultimate goal is to obtain a congener analysis for atmospherically deposited PCB, which would assist in source identification. This information would be used to identify the specific actions needed to significantly reduce these toxic materials from the watershed.
