Comprehensive Plan to Address PCBs in the Spokane River
Annotated Outline
8/23/2105 Draft

I. Watershed Characterization

Common introduction to most TMDLs/Comprehensive Plans in terms of providing relevant background. Will also satisfy the EPA requirement of “Summary of the available data for PCBs in Spokane River water, fish tissue, and sediments”

A. Environmental Setting
   1. Watershed Description
      a) *Population*
      b) *Land use*
      c) *Surface and groundwater hydrology*

B. Available Data

   Summarize all known data sources, starting with those included in the SRRTTF data summary conducted in 2013, expanded to include data collected since then.

   1. Water Quality
      a) *e.g. SRRTTF 2014, 2015; Ecology 2011, 2014*
   2. Fish tissue
      a) *e.g. Ecology 1997, 1999, 2000, 2005, 2006, 2014*
   3. Sediments
      a) *e.g. Ecology 1994, 1995, 2001; Exponent and Anchor, 2001*

C. Impairment Status

   Describe basis for 303(d) listing, as this listing is the driver for the Comprehensive Plan.

II. Water Quality Targets

Necessary section of TMDLs and comprehensive plans, as the ultimate goal of these plans is attainment of water quality targets.

A. Ecology Standards
   1. Water column
   2. Fish tissue

B. Tribal Standards
   1. Water column
   2. Fish tissue

III. PCB Source Assessment

Necessary section of TMDLs and comprehensive plans, and satisfies the EPA requirement of “A list of the identified sources of PCBs in the Spokane River with estimates of current loadings”

A. Sources vs. Pathways

   Draw the distinction between “true” sources of PCBs (i.e. how they are introduced into the watershed) and pathways that deliver sources to the river. For example, a stormwater outfall may be considered a source of PCBs to the river, but it is really only a conduit of PCBs that originate in the drainage basin.

B. PCB Sources and Best Estimates of Loading Rates
   1. Ongoing sources
      a) *Industrial Uses*
      b) *Inadvertent production in commercial and consumer products*
   2. Legacy sources
      a) *Buildings (e.g. caulks, paints)*
      b) *Environmental (landfills, contaminated soils)*

C. PCB Pathways and Best Estimates of Loading Rates
   1. Wastewater treatment plants
   2. MS4 stormwater discharge
   3. Groundwater
   4. Atmospheric deposition
   5. Rural nonpoint source loads

D. Data gaps

Summarize key uncertainties about the magnitude of each source

IV. Loading Capacity

Selection and application of a model to determine the maximum allowable PCB load that will result in attainment of water quality standards.

A. Model Selection
   1. Water column
   2. Fish tissue

B. Model Inputs
   1. Critical environmental conditions
   2. Consideration of seasonality

C. Model Application

V. PCB Control Options

Defines the range of options, by category, for reducing PCBs to levels necessary to meet loading capacity. Also provides best estimate of removal efficiency and costs associated with each option. Satisfies the EPA requirement of "A range of BMPs expected to reduce or eliminate PCBs for each source or category of sources."

A. Control of PCB Sources
   1. Ongoing sources
      a) *BMPs for industrial uses*
      b) *Legislation to minimize inadvertent production*
   2. Legacy sources
      a) *Demolition BMPs*
      b) *Remediation of contaminated soil sites*

B. Control of PCB Pathways
   1. Advanced wastewater treatment
   2. Stormwater management
   3. Treatment of contaminated groundwater

C. Data gaps

VI. Management Plan

Satisfies the EPA requirement of "Recommendations for BMP implementation."

A. Required Control Actions
   1. Evaluation of alternative combinations of control options
   2. Recommended actions

B. Implementation Plan
   1. Schedule for implementation of point source controls
   2. Reasonable assurances that nonpoint source controls will be implemented and achieve expected load reductions

VII. Future Studies

Satisfies the EPA requirement of "Future studies to address remaining data gaps" and includes common requirement of post-implementation monitoring.

A. Post-Implementation Monitoring

Additional data to be collected to determine if the specified load reductions are occurring and leading to attainment of water quality standards, along with corrective actions as necessary.
   1. Monitoring plan
   2. Adaptive management

B. Addressing Data Gaps

Additional data to be collected and analyzed to address data gaps identified in comprehensive plan.
   1. Monitoring plan
   2. Adaptive management