

# Sources and Pathways of PCBs in the Spokane River Watershed

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January 27, 2016

# Outline

- Background on Comprehensive Plan
- Categories of sources
- Categories of pathways



# Comprehensive Plan Background

- Definition (from 2012 Task Force Work Plan)
  - **Comprehensive Plan** for purposes of this document means a report that:
    - describes the data and the analytical process,
    - identifies available Best Management Practices (BMPs) and assesses their potential effectiveness, and
    - recommends a plan for implementation of BMPs that are potentially suitable in the Spokane River Watershed



# Steps to Comprehensive Plan

- Develop inventory of PCB sources and pathways
  - Inventory of known sources and pathways to be considered
  - Magnitude of loading from each source and pathway
- Evaluate Best Management Practices to address PCB sources and pathways
- Attain consensus on alternatives to be included in Plan
- Develop Comprehensive Plan



# Sources and Pathways

- Sources
  - Mechanisms by which PCBs get introduced into the Spokane River watershed
- Pathways
  - Mechanisms by which PCBs get transported to the Spokane River



# Sources

- Divided into Three Categories
  - Legacy
    - Previously produced PCBs located in the watershed
  - Ongoing
    - Sources continuing to be directly introduced to the watershed via inadvertent production
  - Non-Local Environmental Transport
    - Sources transported into the watershed study area by air or water
    - Could be legacy or ongoing



# Legacy Sources

- Previously produced PCBs located in the watershed
- Divided into three major categories

Buildings	Environmental	Industrial Equipment
Fixed Non-Fixed	Surface soils Subsurface soil/ groundwater Aquatic sediments	Electrical transformers Electrical capacitors Hydraulic equipment



# Ongoing Sources

- Sources continuing to be directly introduced to the watershed via inadvertent production
- Divided into three major categories

Printed Materials/Fabrics	Paints	Other
Newsprint Commercial Packaging Colored Clothing	Architectural paint Road paint	Silicone Motor oil Agricultural chemicals





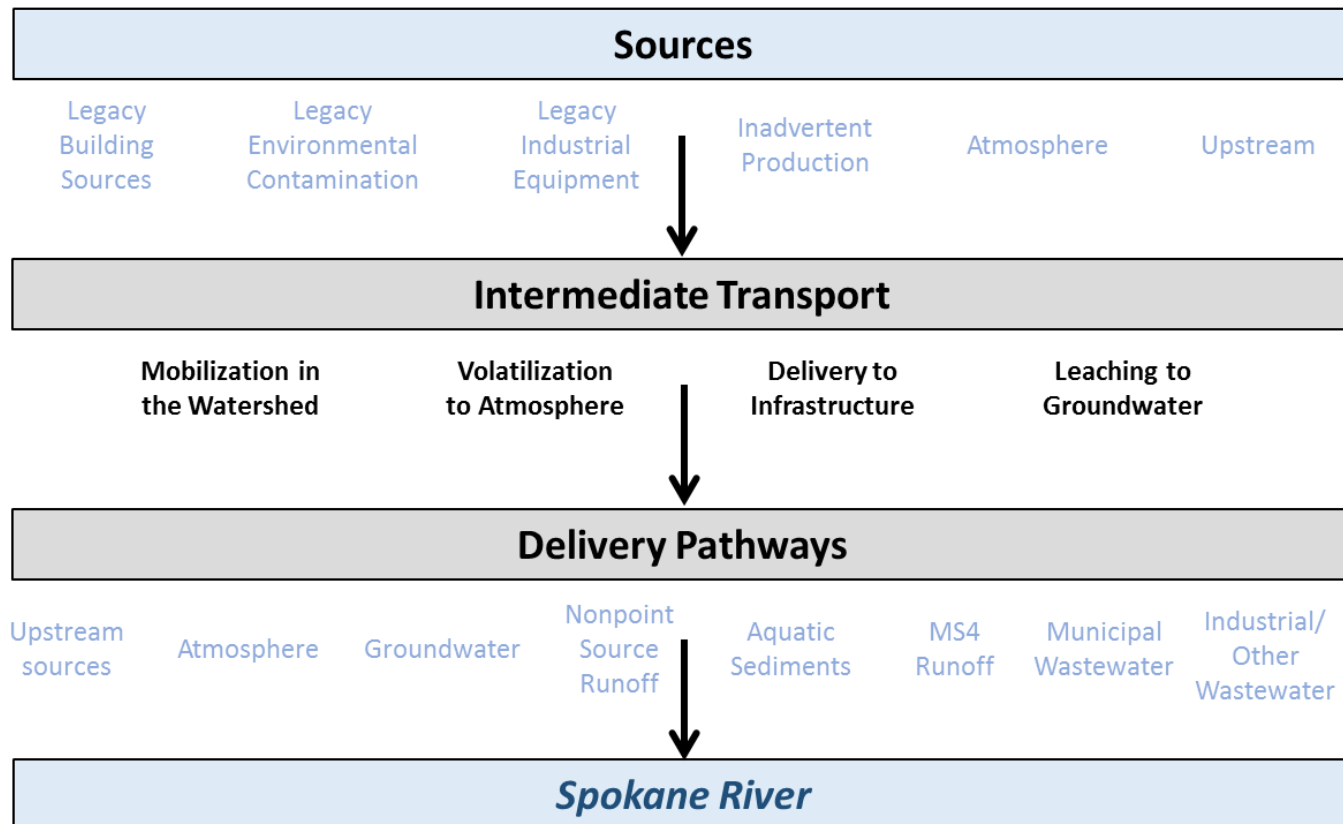
# Non-Local Environmental Transport

- Sources transported into the watershed study area by air or water
  - “Non-Local” term recognizes that there are two sources of PCBs to the local atmosphere over the Spokane watershed
    - Volatilization of PCBs from land-based sources in the Spokane watershed
    - Long-range transport of PCBs originating outside the watershed
  - PCBs coming out of Lake Coeur d’Alene

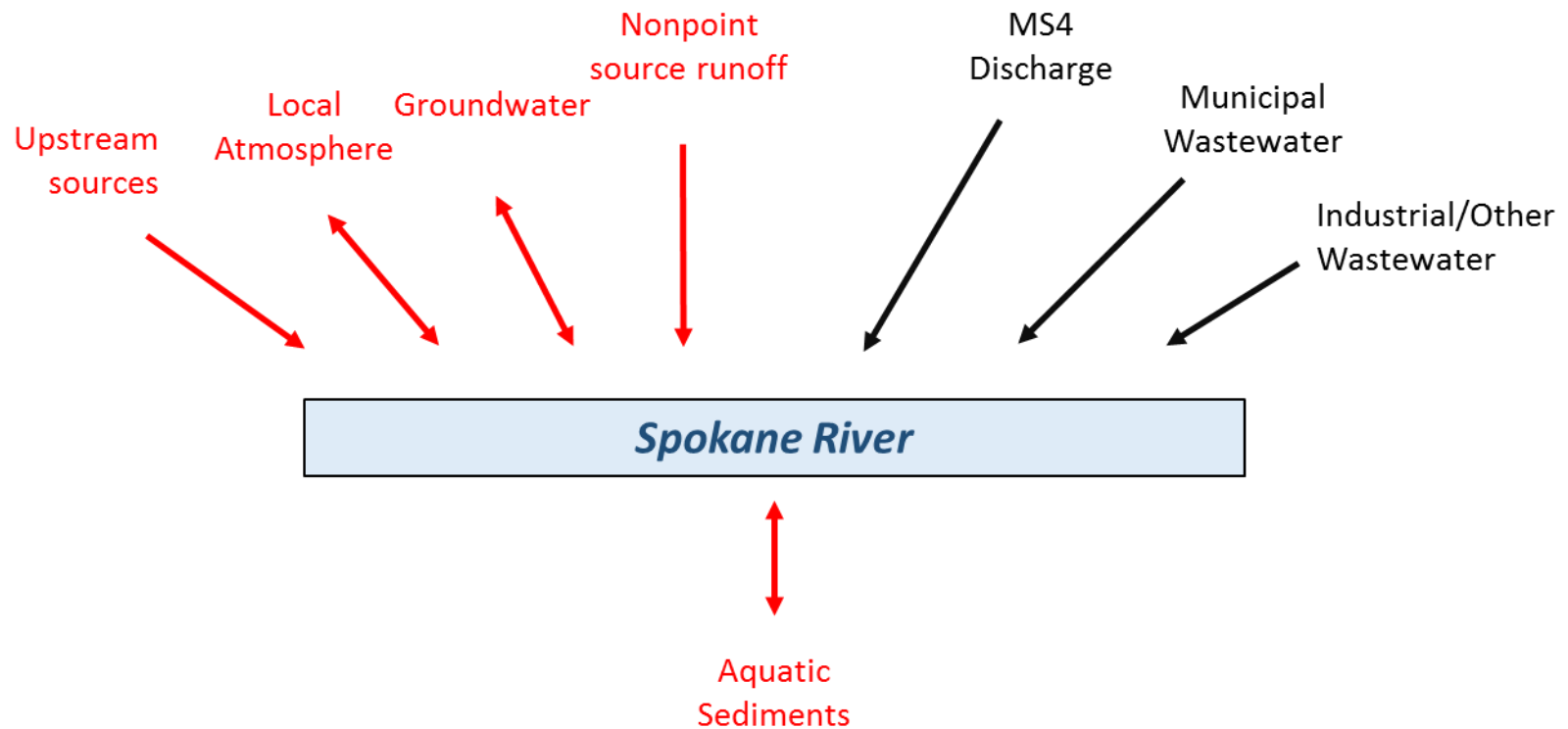


# Pathways

- How do sources get to the river?
- Defines all opportunities for BMPs



# Delivery Mechanisms to the River



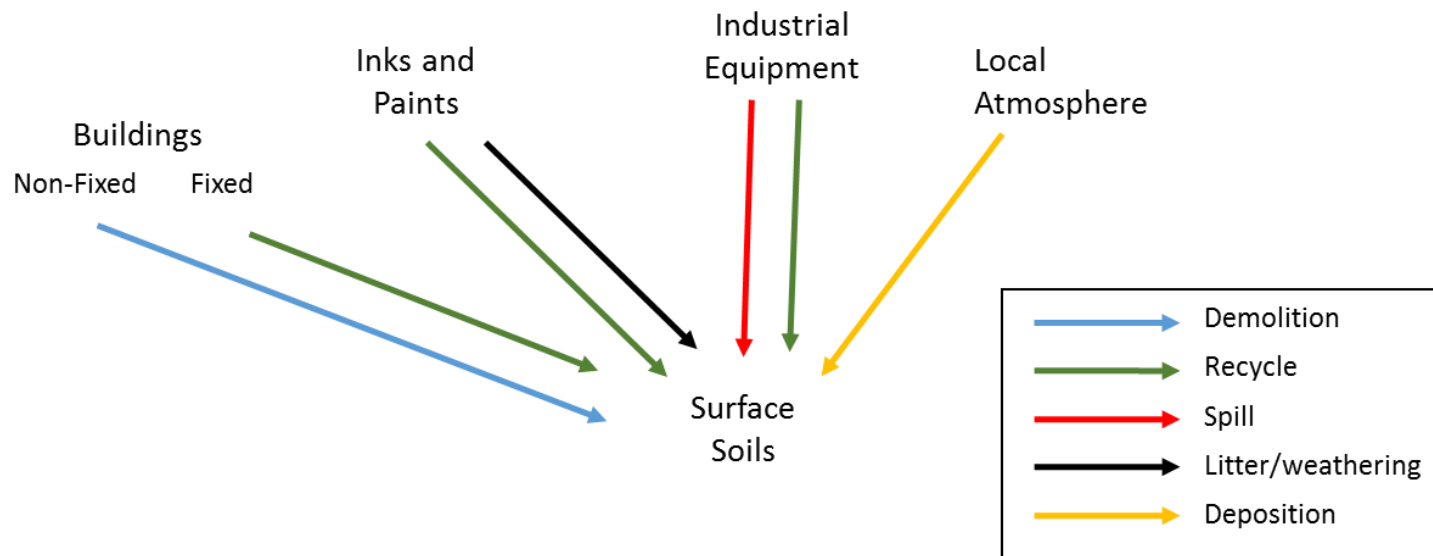
# Intermediate Transport Pathways

- Conduit between sources and delivery mechanisms
  - Mobilization in the watershed
  - Volatilization to the atmosphere
  - Delivery to sewer infrastructure
  - Leaching to groundwater



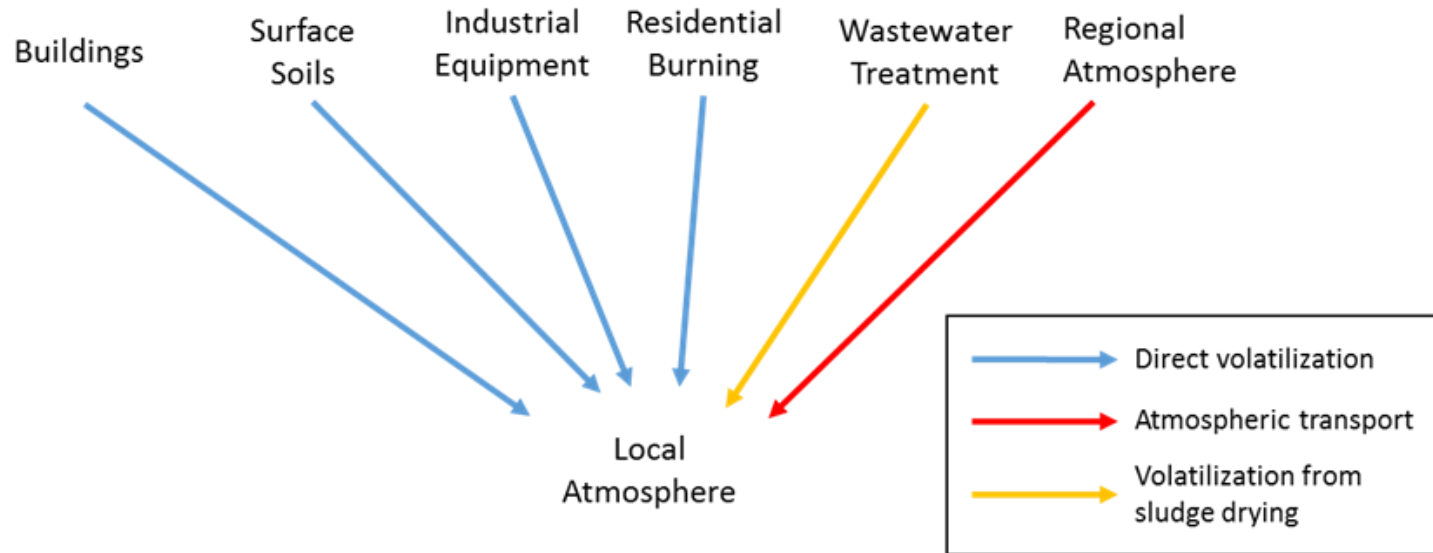
# Mobilization in the Watershed

- Conduit between sources and surface soils



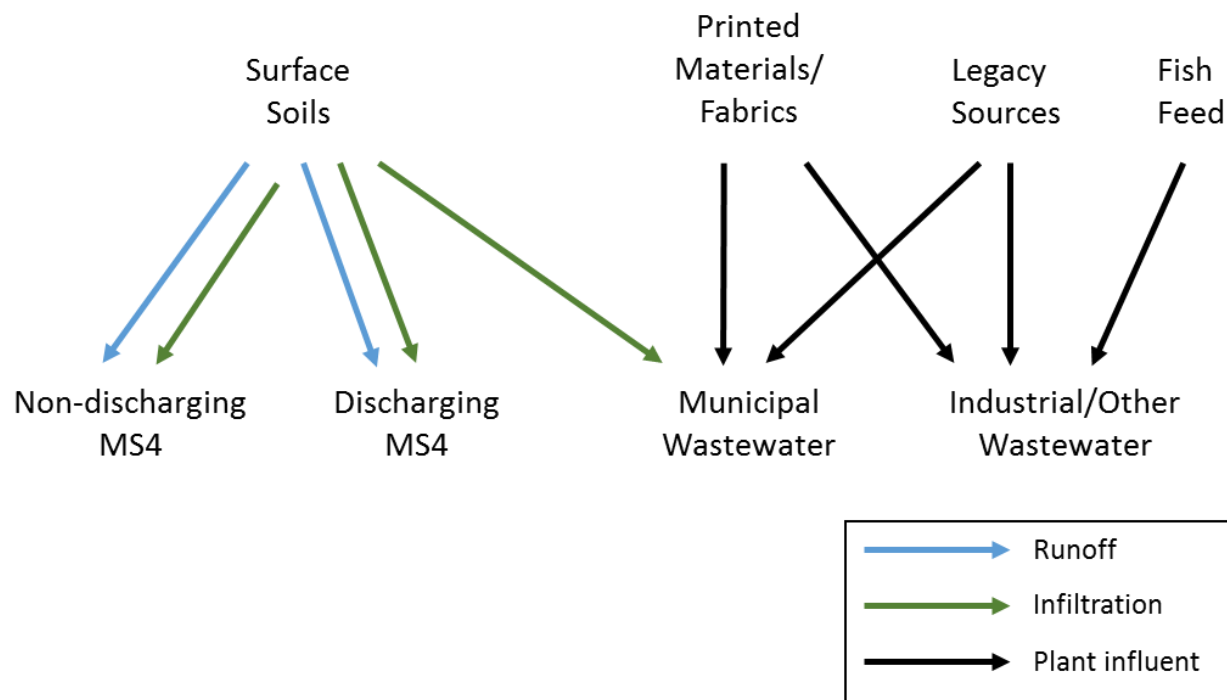
# Volatilization to the Atmosphere

- Conduit between sources and atmosphere

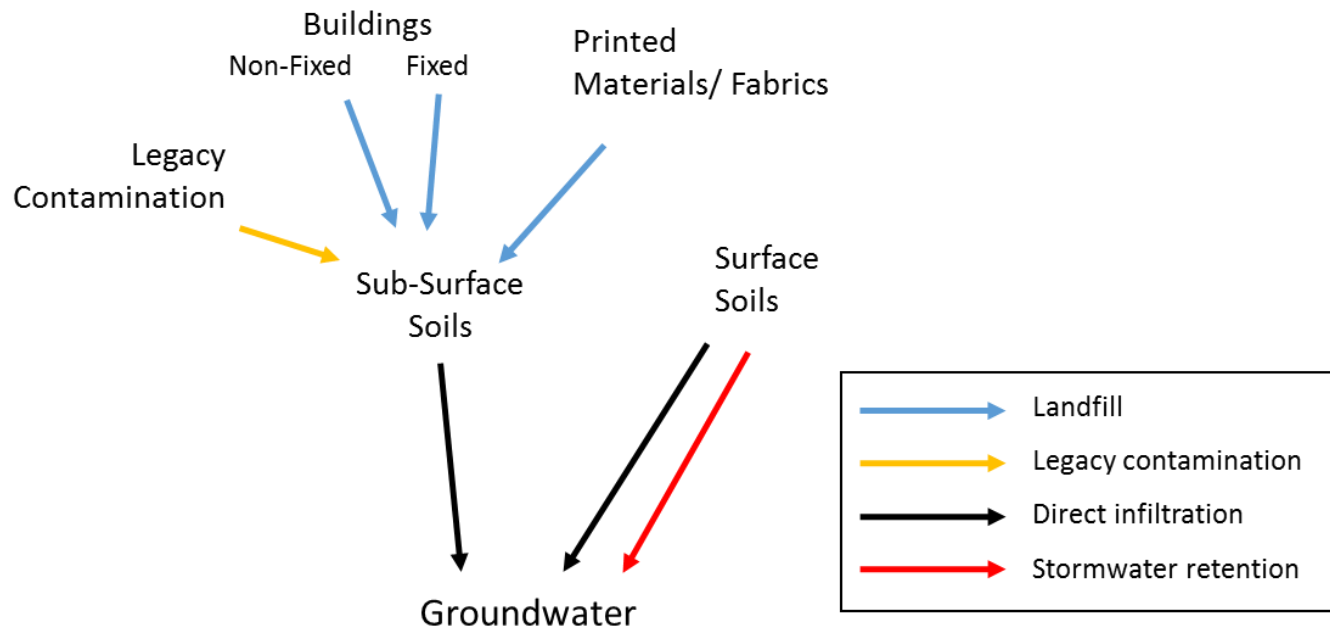


# Delivery to Sewer Infrastructure

- Includes stormwater, municipal, and industrial



# Leaching to Groundwater





# Comments Requested by February 8

Task: Deliverable	Completion Date
1: Draft memorandum defining inventory of known sources and pathways	January 22, 2016
1: Final memorandum defining inventory of known sources and pathways	February 19, 2015
1: Draft memorandum defining magnitude of loading from each source and pathway	March 28, 2016
1: Final memorandum defining magnitude of loading from each source and pathway	May 18, 2016
2: Draft memorandum defining inventory of BMPs to be considered	February 19, 2016
2: Final memorandum defining inventory of BMPs to be considered	May 18, 2016
2: Draft memorandum defining cost of implementation and expected pollutant removal efficiency for each BMP.	June 1, 2016
2: Final memorandum defining cost of implementation and expected pollutant removal efficiency for each BMP.	July 14, 2016
3: Workshop to prioritize alternatives, and identify implementing parties	July 22, 2016
4: Draft comprehensive plan	September 15, 2016
4: Final comprehensive plan	December 16, 2016

