Mapping of Original 18 Questions into Seven Questions Contained in Document "Spokane Data Synthesis Workshop - Potential Activities"

First, questions were slotted into their appropriate categories as show below. Bud's two questions did not map directly over, as they were of the nature "Are our data good enough?" and cover all categories. Lisa's question 5 mapped into two categories, as it was a compound question containing both source characterization and source control.

Second, similar questions were combined (i.e. question 5, 9 and 10; questions 3, 7, and 11; 6 and 12).

The only one of the seven condensed questions that doesn't directly flow from the original questions provided is "How much PCB is in the river (and sediments and fish) now?" Consider that my contribution to the list.

Characterize the Sources

4. Approximately what portion of the PCB mass in the water column can be attributed to inadvertently generated PCBs versus legacy/other sources?
5. What are the probable largest (greatest mass loading) direct sources of PCBs to the Spokane River (what media and at what location) and which ones can we do something about?
9. The 2018 synoptic mass balance indicated loads between Greene St. and the Spokane gage that were not identified in 2015, and could not accurately calculated in 2014 due to gaging issues. Biofilm sampling indicates a potential source in this reach. What data collection activities will provide further information on sources in this reach?
10. The 2018 synoptic mass balance was the first time the reach between the Spokane gage and Ninemile was adequately characterized. What additional data collection activities are necessary to identify sources in this reach?
13. The overview of data should identify, where we know with reasonable certainty, where PCBs are coming from and then how much remains "unidentified or unaccounted for". Then we can determine if the unknown amount is worth pursuing and a strategy for directing future studies on the largest unknowns, while simultaneously implementing actions to address the known sources.
14. What do these data tell us about the amounts, sources, and locations of PCBs and other toxics in the Spokane River?

Identify Appropriate Controls

Relationships (Effect of each source on water/fish)

3. What are the key exposure pathways for fish (eg., water column, sediment, invertebrates) – and can we control PCB loading occurring via each of these primary exposure pathways?
7. What is the relationship between water column concentrations and fish tissue concentrations?
8. What is known about the fate and transport of PCB congeners through trophic levels?
11. What are the dominant fate and transport mechanisms between the water column and fish tissue, and what does this tell us about the relative importance of sources?
18. Where possible, look at fingerprinting congeners and match sources to what we are seeing in the environmental samples.

Controls

5. What are the probable largest (greatest mass loading) direct sources of PCBs to the Spokane River (what media and at what location) and which ones can we do something about?
15. What are the data telling us about the effectiveness of PCB removal from the 'Next Level of Treatment' installed by various dischargers?
16. What are the data telling us about the effectiveness of BMPs implemented as part of dischargers' Toxics Management Plans?

Make Measureable Progress

6. What is the trend of PCB concentrations in fish?
12. Are the Taskforce data that have been collected to date for the purposes of source identification, of adequate quality that we could use those data to answer other questions that are going to be coming down road. (e.g. establishing trends, determining effectiveness of control actions, determining the central tendency, measurable progress determinations, etc.)?
17. What environmental trends do the data support (ie. decrease of PCBs in the river, sediment, biota, etc.)?