

Toxics Task Force Presentation

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Title Slide

We are members of this community and committed to the health of the Spokane River.

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Who We Are

We represent a broad diversity of interests: business, conservation groups, and state, local and Federal government agencies. And we are collaborating and leading efforts to find and reduce toxic chemicals in the Spokane River and Lake Spokane.

The tribes are sovereign participants.

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Over the years significant efforts have been made to protect the river and our community.

Treatment facilities have gone from directly discharging into the river and low level treatment discharging to the aquifer (septic systems) to modern facilities.

In the past 20 years there has been a significant decrease of PCBs in the river because of cleanup and regulatory actions.

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The Issue

So, what is the issue? To begin our discussion, it is necessary to understand that there are environmental goals for protecting the Spokane River. We call those goals "water quality standards ." They are intended to protect the ways we use the river. The Spokane River does not meet environmental goals for a number of toxics, including PCBs. Consumption of PCB contaminated fish is a major concern.

Different agencies and sovereigns have different goals. The Spokane River watershed is in multiple states and important to multiple Tribes. Our water quality goal is established by the downstream sovereign, which is the Spokane Tribe.

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Our Vision

Our goal (vision) is to work together to properly identify sources and remove them so we can bring the Spokane River into compliance with applicable water quality standards.

This approach must be reasonable, science-based, measurable, and something that can be accomplished using current technology.

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What Are PCBs?

A family of toxic man-made compounds that persists in the environment and accumulates in animal tissue.

Properties:

- First produced in 1927 and commercial production started in 1935
- They were found to have good insulating and fire resistance properties
- And were used in transformers, motor oil, hydraulic fluids
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- But they were found to have environmental and health impacts, so
- Commercial production stopped in 1977
- Uncontained use of PCBs were banned in the US in 1979

By that time, there were more than 200 identified uses including construction materials, plasticizers, caulks, carbonless copy paper, etc.

The estimated global inventory of PCBs in 1979 was 1.5 million tons.

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Where PCBs Are Found Today

Because of the ban on commercial production and use in the late 70s most people think of PCB as a “legacy” pollutant and therefore there is nothing that needs to be done.

However, EPA regulations do allow production of PCBs. They can be found in low concentrations in many products.

The problem is that the PCB in these products can reach the river under normal use. When they do so, they can cause the river to exceed the water quality standard.

PCB levels exceeding water quality standards are still being detected in present day products such as:

- Inks, dyes, pigments (yellow, green and blue color) that are used in:
 - Paints
 - Dyes for clothing
 - Newspaper printing inks
- Caulk

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- Motor oil
- Plastics
- Food packaging
- More will be identified as we do our work

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How PCBs Enter the Spokane River:

- Through storm water run-off
- Through the atmosphere from the water cycle - rain and snow - atmospheric deposition
- Through the home and PCB-containing consumer products
- Through waste water treatment plants:
 - Human waste flushed down our toilets
 - Dyes washed off our clothes
 - Recycling of newspaper

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How PCBs Enter the Spokane River?

We have started on a focused effort to learn more about PCBs in the Spokane River. There are many things we do not know about where the PCBs come from. Specific to the Spokane River, this pie chart shows what we do know about the sources of PCBs.

PCBs are not manufactured in Spokane. Wastewater treatment plants receive PCBs that are contaminants in **consumer products, clothing dyes, and the inks in recycled newsprint**. The wastewater treatment plants are effective in removing most of the PCBs but are unable to get down to the low levels of the water quality standards.

The important part about this pie chart is we still have a lot of work to do to identify all of the sources of PCB. Once we do that, we can identify the best way to reduce the sources of PCB to the river.

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What Are PCB Limits?

When measuring PCB in water, picograms per liter is a very small unit of measurement.

It can also be described as a ratio in parts per quadrillion.

What does this look like?

- If one cup of coffee is poured into the Great Lakes, then that is a ratio of one part per quadrillion.

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- A ratio of part per quadrillion is like trying one hair from all the heads of all the people on the planet
- One part per quadrillion in area is like one dollar bill in the entire country of Canada
- One part per quadrillion expressed as time is 2.5 minutes out of the age of the Earth

Water Quality Standards

WA State's PCB is 170 picograms per liter

EPA Water Quality Standard is 64 picograms per liter

The Spokane Tribe's WQS is 3.37 picograms per liter

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What Are PCB Limits?

How much of a consumer product does it take to violate the water quality standard?

Potential sources of PCB in the watershed:

- Motor oil (up to 2 ppm allowed by EPA)
- Detergent bars (up to 5 ppm allowed by EPA)
- Fish and animal feed (up to 2 ppm allowed by FDA)
- Food wrappers (up to 10 ppm allowed by FDA)
- Human food (0.2 to 3 ppm in milk, eggs, other dairy products, poultry, fish, shellfish, and infant foods allowed by FDA)

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Health and Environmental Impacts of PCBs

- PCBs are persistent, bioaccumulative, and toxic
- Take a long time to degrade in the environment

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Health and Environmental Impacts of PCBs

PCBs end up in our environment, including our lakes and rivers. Here they persist and travel up through the food chain, in some cases having ongoing impacts to humans and the environment.

Environmental impacts

- Accumulates and is toxic, is very slow to break down, affects wildlife and concentrates in fish.

Health impacts

- Can cause Skin ailments, liver damage, neurological effects, birth defects and is a suspected carcinogen
- People who eat fish from the river are at a higher risk for health impacts.

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Decline of 50% Over 20 Years

In the past 20 years there has been a significant decrease of PCBs in the river because of cleanup and regulatory actions.

- In part due to remediation.
- There have also been natural reductions in PCB due to the EPA bans on commercial production and restrictions on use
- But in addition to the legacy PCBs, there are PCBs that are still being produced and used in our watershed. In order to achieve the water quality goals for the river we need to reduce levels of by 98%. This will take a coordinated approach where everyone works together, locally, across the state, and the nation to achieve this goal.

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Spokane is at the leading edge of this issue and as is a national leader in its efforts to reduce PCBs.

- Task Force Approach:
 - Efficient and cost-effective collaborative process
 - Seeking long-term, science-based solutions
 - Using direct-to-implementation process
 - Find source – remove source

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- Task Force Goal: To bring the Spokane River into compliance with water quality standards

How we will achieve the goal:

- Better understand of how PCB enters and moves through the Spokane River
- Develop an understanding of the river and describe in a model
- Identify the data we have for the model and what data we need (a data gaps assessment)

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- Fill the data gaps with data that is collected or information that we can infer from environmental studies
- Engage in clean-up activities
- Prioritize which activities are the most efficient and cost effective
- Create a work plan for cleanup that includes "best management practices" and PCB reductions activities.

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Task Force Accomplishments

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Looking Ahead

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Why Should You Care?

We know that clean environment is linked to a healthy community and economic growth.

- Human Health
 - Fish consumption
- Clean Water
 - Aquifer
 - Exchanges water with the Spokane River, so a clean Spokane River means clean drinking water
- Your investment means:
- Economic Growth
- Preservation of the physical beauty of the River

BUT We all pay for this somehow—better now than later

Costs shared by:

- Rate payers
- Businesses
- Government
 - Federal
 - State
 - Local

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What Can You Do?

- Managing PCBs and preventing them from entering the environment will take a comprehensive approach that addresses many sources including consumer products.
- Properly dispose your household waste. Be careful what you put down the drain and only rain down the storm drain.
- As we learn more, we will communicate with the public on how they can further reduce PCBs and help protect our river.

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Summary

Collaboration – Innovation – Progress

The task force is the only regional group in Washington and Idaho that is working to answer the tough questions and make measurable progress towards reducing PCBs, dioxins, and their sources.

We expect this innovative approach to be faster and less expensive than the traditional method for improving the river.

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Questions?