

FOR IMMEDIATE RELEASE - June 22, 2006
06-103

Studies identify water quality challenges in Spokane River

SPOKANE-Work is under way to identify and eliminate the sources of toxic chemicals including PCBs, flame retardants, metals, dioxins and furans, which a series of Department of Ecology (Ecology) water-quality studies have identified in the Spokane River.

Study results for the Spokane River released today show these chemicals can persist over time in the environment and build up in the tissues of fish.

The concentrations of these toxic chemicals must be reduced in keeping with federal, state and tribal water quality standards.

The existing health advisories on the river are believed to be protective, even with this new information, according to the state Department of Health and the Spokane Regional Health District. The health advisories address how much fish is safe to consume as well as the location of beach sediments that may be harmful, especially for children who play in the sand.

"We are absolutely committed to finding out more about how these toxic chemicals got into the river and then eliminating those sources," said Dave Peeler who manages Ecology's water quality program. "This will be an open, public process that will involve the entire community."

One study is the basis of a water-quality cleanup plan or a "total maximum daily load" (TMDL) report that will be developed for polychlorinated biphenyls or PCBs. PCBs are a family of chlorinated chemical compounds that once were used in insulating fluids for electric transformers and capacitors and in other products, such as plasticizers, paint additives, adhesives and hydraulic fluids.

The U.S. Environmental Protection Agency banned the commercial production of PCBs in the U.S. in 1977 because of concerns about toxicity and persistence in the environment.

Ecology researchers found that PCBs in the river increase in successive reaches of the river moving downstream from the Idaho border to the Long Lake Dam. PCBs get into the Spokane River through a variety of sources including stormwater pipes, industrial discharges and wastewater treatment plants.

Ecology water quality experts will begin immediately to work with dischargers, local governments and other interested parties to find the specific sources of the PCBs and develop plans to stop their release into the river. In addition, sediments with high concentrations of PCBs behind Upriver Dam are being cleaned up this summer.

Another study looked at fish tissue from sport and bottom fish from six locations in the Spokane River. This study concludes that Spokane River fish have higher concentrations of flame retardants known as PBDEs (polybrominated diphenyl ethers), and some metals (zinc, lead and cadmium) than fish elsewhere in the state.

Preliminary results from a statewide study that specifically looked at PBDEs corroborated the conclusion that Spokane River fish have higher levels of PBDEs than other areas of Washington state.

"We don't currently know the origin of PBDEs in the Spokane River, but identifying those sources is a high priority so that we can begin to control them," Peeler said.

PBDEs are chemical additives used in everyday household products to reduce death and injury from fires. While the fire safety benefits are clear, a growing body of research indicates

that PBDEs are building up in people's bodies, in animals and in the environment.

PBDEs have been measured in blood, fat and breast milk in people around the world. The exact way that people are exposed to PBDEs is not fully known, but recent research points to human exposure from air and dust, and from certain foods.

"We do know that the metals we found in fish tissue are remnants from mining activity in Idaho, and the answer to that is continued cleanup operations in Idaho and cleaning up the beaches in Washington that have the highest levels of metals in the sediments," said John Roland of Ecology's toxics cleanup program.

According to Roland, beach cleanup begins this summer at a location near the state line, known as the Starr Road recreation site. Ecology is now working hard to expedite cleanup work at several remaining recreational and habitat sites.

Another study, which is part of a regular analysis of monitoring data from across the state, identified dioxins and furans as pollutants of concern that may require conducting a water-quality cleanup plan process.

Dioxins and furans are the abbreviated names for a family of toxic substances that all share a similar chemical structure. They are created when other chemicals or products are made, such as herbicides. They also are created during the incomplete combustion of a variety of materials. Nationwide, dioxins and furans have been found in the air, soil and food.

"We understand that these reports may cause people to be concerned," said Dr. Kim Thorburn with the Spokane Regional Health District. "Based on our review of the studies, and the levels of the contaminants found in fish, we believe that our current fish and sediment advisories for the Spokane River cover the health concerns that these new reports raise.

"Working with the state Department of Health, we plan to continue to review all new data thoroughly, and will make any necessary adjustments in our advisories based upon a complete analysis," Thorburn added.

Reducing potential exposures to these toxic substances is a priority for the Department of Ecology and health agencies, especially where children are concerned. These persistent chemicals have been shown to damage developing brains and nervous systems.

Pound for pound, children drink more water, eat more food and breathe more air than adults. Kids are exposed to toxics in ways that adults are not--by playing on the ground and putting their hands and toys in their mouths.

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For more information:

Ecology's Web site: <http://www.ecy.wa.gov>

Spokane Regional Health District river advisories:
Fish--

http://www.srhd.org/downloads/safety_environment/SpokaneRiverFishAdvisory.pdf

Shoreline soils--

http://www.srhd.org/downloads/safety_environment/ShorelineSoilsAdvisories.pdf

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