Spokane River and PCBs
Sierra Club Initial Comments on the Spokane River PCB Cleanup Study
June 2006

Polychlorinated biphenyls (PCBs) are a mixture of individual chemicals which are no longer produced in the United States but are pervasive in the environment. PCBs are a known carcinogen and health effects associated with PCB exposure include acne-like skin conditions in adults and neurobehavioral and immunological changes in children. The greatest risk of exposure to PCBs is through eating wildlife or fish from contaminated locations, such as the Spokane River and Long Lake reservoir (Lake Spokane).

Due to the high levels of PCB concentrations found in fish tissue, segments of the Spokane River and Long Lake have been deemed "critically impaired" for PCBs by the EPA. Because of this, the Washington Department of Ecology is charged with devising a cleanup plan or TMDL for PCBs in the Spokane River. The purpose of a TMDL is to identify the sources of PCBs in the system and to determine a strategy to reduce the concentrations to levels that will not cause harm to humans, animals and the environment.

Ecology's draft PCB Study will be released for public comment on June 22. The goal of the TMDL is to meet the Spokane Tribe's water quality standards for PCBs, which are more stringent than Washington's. The draft PCB Study is expected to show that total PCB loading increases, on average, from 477 micrograms/day at the Idaho border to 3,664 mg/d downstream of Long Lake dam.

By law, Washington must ensure that Spokane River water quality does not violate downstream standards, in this case, the standards adopted by the Spokane Tribe which apply to the river immediately downstream of Long Lake. Because Spokane tribal members consume more fish than the average American, the Spokane Tribe has adopted PCB standards that are significantly more stringent than Washington's. And because PCB contamination on the Spokane River is coming from upstream, the only way to meet the Tribe's standards is to reduce loading upstream.

The sources of PCB loading from point sources in Washington are Liberty Lake Sewer & Water District's wastewater treatment plant, Kaiser Aluminum Trentwood, Inland Empire Paper, City of Spokane storm water, and the Spokane wastewater treatment plant. Nonpoint source loading sources include the Little Spokane River and historic sediment loading.

The study shows that the total PCB concentration in the effluent from the point sources is thousands of times higher than that needed to meet human health criteria. Moreover, although the study notes that fish tissue concentrations in the Spokane River have decreased since 1999, these levels are still **20,000** times higher than those needed to meet the Spokane Tribe's standards. Clearly, drastic reductions must occur.

The following are some issues of concern regarding the report:

- **The City of Spokane is the worst offender.** The draft PCB Study shows that the City of Spokane, both through its wastewater treatment plant and storm water drains, is discharging large amounts of PCBs into the Spokane River at estimated concentrations 400 to 18,000 times higher than those necessary to achieve fish tissue criteria for the downstream Spokane Tribe. The report shows that these discharges must be reduced by 99.9%. What the TMDL does not show is where these PCBs are coming from and what we can do to prevent their release into our waters.

- **Industrial discharges are contributing to the problem.** The PCB TMDL report also shows that the concentrations of PCB releases from the industrial plants along the river, Kaiser Trentwood and Inland Empire, are quite high – 1000 to 2500 times higher than the concentration needed to meet the Spokane Tribe fish tissue criteria. Why are these private companies being allowed to discharge PCBs at all and what can be done to stop it?

- **Multiple exposures to toxic chemicals may harm the public.** The PCB TMDL report notes that there are other toxic chemicals of concern in fish tissue in the river, including dioxin-furans, DDE (an impurity of DDT), and PBDEs, all of which are human health hazards. In fact, segments of the Spokane River and Long Lake are now critically impaired for dioxins-furans and DDE and cleanup plans for these chemicals will be required. Scientists are expressing concern about the added risks to human health from exposure to multiple toxins. Why, then, is Ecology taking a piecemeal approach to these hazardous chemicals which could underestimate the human health risks from eating fish from the Spokane River and Long Lake?

- **Public health advisories may be inadequate.** The PCB TMDL report shows that the level of PCB contamination increases as one moves downstream with the highest loadings in Long Lake (Lake Spokane). Why, then, has the Washington Department of Health not issued fish advisories below Nine Mile Dam?

- **Additional sampling is needed.** The samplings used to justify the conclusions in this report appear statistically inadequate. For example, the report admits that we need a 99% reduction in PCBs in sediments in addition to source reductions, but does not provide for any sediment remediation. Instead, it assumes sediment loading will decrease by half every 10 years in upper Long Lake and 20 years in lower Long Lake based on only two core samples, one from the upper and one from the lower lake. In addition, the report relies on a single day of sampling from three storm drains and one CSO for storm water, and only three samples for dischargers – one each in February, April and October.