Northwest Power and Conservation Council



August 1, 2007

# MEMORANDUM

**TO:** Council Members

**FROM:** Jim Ruff -- Manager, Mainstem Passage and River Operations

**SUBJECT:** Lower Columbia River Estuary Partnership Ecosystem Monitoring -- Water Quality and Salmon Sampling Report

At the August 14, 2007, Council meeting in Spokane, Debrah Marriott, the Executive Director of the Lower Columbia River Estuary Partnership (LCREP), and Jill Leary, the Technical Projects Coordinator at LCREP, will present the recent findings from LCREP's water quality and salmon sampling studies in the Lower Columbia River. This will be an informational briefing. No Council action is required.

**Background**

On May 7-9, 2007, the Estuary Partnership and U.S. Geological Survey (USGS) hosted a forum followed by two days of technical presentations about conditions in the lower 146 miles of the Columbia River. The dialogue is helping the Estuary Partnership advance its monitoring program and set specific actions to help reduce and eliminate contaminants. As part of the forum, the Estuary Partnership released monitoring results targeted at assessing the impacts of toxics on salmonid species. Toxic and conventional pollutant water quality monitoring and juvenile salmonid sampling was completed at six sites in the lower river to analyze for petroleum hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), emerging contaminants, such as estrogen compounds and flame retardants, current use pesticides, and trace elements. Key partners in this effort include the USGS and NOAA Fisheries.

The monitoring results determined that contaminants banned in the 1970s, referred to as "legacy" contaminants, are still being detected in sediment and aquatic biota. These contaminants persist and are accumulating up the food chain. These include pesticides, such as dichlorodiphenyltrichloroethane (DDT), and compounds used as coolants and lubricants, such as PCBs. These breakdown slowly and remain in the environment a very long time. We also detected contaminants in sediment and biota that are still in use, such as mercury and flame retardants (referred to as PBDEs), which are also accumulating up the food chain. Other in-use and emerging contaminants do not accumulate in fish tissue but can impact the growth, reproduction and immune systems of aquatic organisms. These include many types of pesticides, PAHs and pharmaceuticals.

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