

---

**AWRA 2007 SUMMER SPECIALTY CONFERENCE**  
**Vail, Colorado**

**June 25-27, 2007**

**Copyright © 2007 AWRA**

---

**Endocrine Disrupters in Ambient Surface Waters of King County Washington**

Deborah Lester\*, Richard Jack, Diane McElhany, Dana Walker, Jim Buckley, Francis Sweeney

**ABSTRACT:** Due to increasing concerns regarding the potential ecological effects associated with exposure to chemicals classified as endocrine disrupters. King County initiated a pilot monitoring survey to evaluate concentrations of a targeted list of EDCs in streams, lakes and Puget Sound marine surface waters and a limited number of stormwater discharges. Discharges of sewage effluent and stormwater have been identified as a source of some compounds classified as suspected endocrine disrupters. King County, in Washington State, currently operates two large and one small sewage treatment facilities, 39 combined sewer overflows and some stormwater discharges into Puget Sound, lakes and streams in the greater Seattle metropolitan area. Sampling was conducted quarterly during 2003 and more than 300 samples were collected and analyzed for a number of EDCs. Both traditional chemical analysis methods and the Enzyme-Linked Immunosorbent Assay were used to analyze the samples. The highest concentrations of a number of analyzed compounds were detected in stormwater. In general, the highest concentrations and greatest frequency of detection in surface waters were observed in streams, while the lowest concentrations were found in marine waters. EDCs were detected very infrequently and at very low levels in samples collected in the vicinity of sewage treatment plant outfalls that discharge into Puget Sound. However, some concentrations detected in streams were in the range of levels that the literature suggests may result in potential impacts. All data, including method detection limits, were compared to a variety of effects levels obtained from the literature. King County will use data generated by this pilot survey to develop recommendations for future sampling and analysis efforts. Detailed results of this pilot monitoring survey will be presented.

---

\* Ecotoxicologist, King County Dept. of Natural Resources, 201 South Jackson St, MS KSCNR 0600, Seattle, WA 98104, USA, Phone: 206-296-8325, Fax: 206-296-0192, Email: [deborah.lester@metrokc.gov](mailto:deborah.lester@metrokc.gov)