

OK hormone levels in Okanagan lakes

CHBC News, Kelowna: Wednesday, May 5, 2010



Samples of treated wastewater in the Okanagan show micro levels of estrogen hormones. But researchers say the tests were within acceptable levels.

Photo Credit: CHBC News, File

Treated wastewater in the Okanagan has acceptable levels of estrogens, hormones that can destroy fish populations, according to researchers at the University of British Columbia - Okanagan.

While Kelowna wastewater tested the highest, Vernon's tested the lowest for disruptive hormones.

Researchers have determined concentrations of endocrine disrupting compounds (EDC's, also referred to as estrogens) are low in Kelowna, Vernon and Penticton wastewater treatment effluents.

The researchers have sampled municipal wastewater to determine levels of the EDCs and rates at which they break down in the environment.

On average, the concentrations of EDCs in wastewater are usually in the mid teens of nanograms per litre (ng/L) or parts per trillion. Levels observed in the Okanagan were 39 ng/L, 0.5 to 1 ng/L and 3.9 ng/L for Kelowna, Vernon and Penticton treatment facilities, respectively.

"Endocrine disruptors are an emerging issue that we should pay attention to," says Stu Wells, Chair of the Okanagan Basin Water Board (OBWB). "This research puts a spotlight on low-level endocrine disruptor compounds detected in our wastewaters."

The research suggests that EDCs rapidly degrade in the environment resulting in the low levels measured.

At chronic high levels of exposure, EDCs have been noted to cause feminization of male fish and even collapse fish populations.

"Some of the next tasks will be to determine the effects of seasons on EDC levels in wastewater and receiving water, and on environmental loss rates," says Jeff Curtis, Associate Professor of Earth and Environmental Sciences at UBC's Okanagan Campus.

"This will allow for more confidence in very low values and detection of EDCs in water where the compounds were previously undetected," says Curtis.

The study will continue for at least one more year, funded by Health Canada, the Okanagan Indian Band, the Interior Health Authority, B.C. Ministry of Environment, and the OBWB.

Sampling in the Okanagan will continue this summer in Okanagan Lake at Kelowna, Vernon's MacKay reservoir and the Okanagan River Channel.

"It is important that the OBWB and the government be proactive and responsible in supporting new water research," says Wells. "Our environment, economy and quality of life depend on it."

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