

From www.kelownadailycourier.ca

LOCAL

Low-level estrogens found in waste water

By

Special to The Okanagan Sunday

Sunday, May 9, 2010

A compound that could cause male fish and frogs to turn female and lead to the collapse of fish populations is not creating a problem in local waters, early results of a UBC study show.

UBC researchers have determined that concentrations of endocrine disrupting compounds (EDCs, referred to collectively as estrogens) are low in Kelowna, Vernon and Penticton waste-water treatment effluents.

Jeff Curtis, associate professor of earth and environmental sciences at UBC's Okanagan campus, and graduate student Tricia Brett are sampling municipal waste water and receiving waters to determine levels of four estrogenic compounds and rates at which they break down in the environment.

Since 2008, sampling has been underway at the sewage treatment plants in Penticton, Kelowna and Vernon.

Samples have been taken of the treated effluent, and of the waters receiving the waste water.

In Penticton, the treated waste water is discharged into the Okanagan River Channel. Kelowna's treated waste water is discharged into Okanagan Lake. In Vernon, it is discharged into the MacKay Reservoir, which supplies a spray irrigation system for nearby lands.

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

"Endocrine disruptors are an emerging issue that we should pay attention to," said Stu Wells, chairman of the Okanagan Basin Water Board. "It is important that the OBWB - in partnership with all levels of government - be proactive and responsible in supporting new water research. Our environment, economy and quality of life depend on it."

When discharged into the environment, EDCs contained in treated waste water are diluted and degrade over time. The research suggests EDCs rapidly degrade in the environment. The combination of dilution and losses results in the low levels (generally less than 0.03 ng/L) measured in receiving waters. Sampling will continue this summer. At chronic high levels of exposure, EDCs have long been known to cause feminization of male fish and amphibians and to kill large amounts of fish, said Curtis. None of the measurements in the receiving waters are in the range implicated in the collapse of fish populations.

Copyright © Wednesday, May 26, 2010 All material contained herein is copyrighted by
The Okanagan Valley Group of Newspapers, a division of Continental Newspapers Canada Ltd.
All Rights Reserved.