

Endocrine Disrupting Compounds in Agriculturally Intensive Landscapes: Muddy Waters



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During the spring, rivers in the Midwestern United States receive considerable input from surface landscapes. This input is driven by storm events, as endocrine disrupting chemicals, along with sediment, are carried from agricultural fields to surface waters. The sediment plays a surprisingly important role in the fate and transport of agrichemicals in these watersheds, as it acts as both a sink and a source of contamination. Fish exposed to these chemicals do not eat them, but rather are exposed to free chemicals via desorption and to sediment-bound chemicals via direct contact, most likely involving the gill epithelium. Far from being straightforward, the fate, transport and biological effects of endocrine disrupting agrichemicals is influenced by subtle interactions between the water and sediment.

About the Speaker

Alan Kolok's research, education and community engagement activities focus on the fate, transport and biological activity of biologically active compounds in surface waters. With respect to research his efforts have focused on using fish as environmental sentinel organisms. While his work has been focused on Nebraska, he has also been actively involved in research in Latin American, including Colombia and Chile. As Director of the Nebraska Watershed Network, Kolok manages the Elkhorn River Research Station, a recently constructed facility used to evaluate surface water quality. A second station, the Missouri River Research Station is currently under construction and will be operational in August 2015.

About the Series

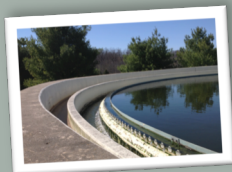
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With respect to community engagement, Kolok has initiated What's in your Watershed Day, a day long event that has occurred annually since 2011. During Watershed Day, citizen scientists collect water quality information, en masse, across vast geographies. In its first year, the focus of the effort was the 320-mile long Elkhorn River. In 2014, the focus was the 2,340-mile long Mississippi River. In these efforts, citizen scientists were instrumental in amassing synchronized data that would have been unobtainable otherwise.

Kolok received a doctorate degree in Environmental Biology from the University of Colorado, an MS degree in Fisheries and Oceanic Science from the University of Washington and a bachelor's degree in Zoology from the Miami University. He currently holds the Isaacson Professorship for Research at UNO.



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