



# Laurentian SETAC

Laurentian Chapter of the Society of  
Environmental Toxicology and Chemistry

## Ottawa Pub Night

# A peek behind the curtain: the makings of a standardized amphibian test method

**Leana Van der Vliet, M.Sc.**  
Environment and Climate Change Canada

**When:** Wednesday March 28  
5:00 – 7:00 p.m.

**Where:** Clock Tower Brew Pub  
575 Bank Street

**Cost:** \$1 members  
\$3 non-members

Join us for an engaging talk, good eats and fine brew!  
For more information contact Rebecca Dalton:  
[becca.dalton@gmail.com](mailto:becca.dalton@gmail.com)



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# A peek behind the curtain: the makings of a standardized amphibian test method

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## Abstract:

Us methods people, we look at research differently. While we love to follow our colleagues' curiosity-driven experiments and ponder mechanism of action, our focus is on the method itself, and less so on the outcome. We spend a lot of time refining our lab procedures, answering questions like: Is this the best temperature? Should we compare these results with a different life stage? What would be a typical response in the controls for this test? In standardized test methods, there is also strong focus on quality assurance and quality control. Prototype test procedures are repeated within the same lab and among different labs until we get, well, boring results—boring because they are reproducible and robust with no surprises. That's what we call a success.

The amphibian test method using native leopard frog tadpoles will be used to illustrate the inner workings of the standardization process. We will start by explaining why we are developing an amphibian test method, outlining other amphibian test methods, and describing potential regulatory uses for amphibian toxicity data. Standardized test method development includes several steps, such as method research, method refinement, technical writing, inter-laboratory testing and peer review. Our peek behind the curtain will begin at the method refinement stage, where we addressed food type, exposure duration, and the utility of a reference toxicant, among other things. We faced challenges including limited availability of test organisms, the use of fish as a surrogate for amphibians, how to reduce effort in this labour-intensive test, and addressing concerns on vertebrate testing (the three Rs). One of the defining features of a standardized test method is an inter-laboratory test (also known as a ring test or Round Robin), and we will present some preliminary results from tests using sodium chloride and a thyroid-active compound. Next steps will include further inter-laboratory testing, development of quality control criteria, improvements to methodology text and peer review.



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**Leana Van der Vliet, M.Sc.**

Environment and Climate Change Canada

Email: [leana.vandervliet@canada.ca](mailto:leana.vandervliet@canada.ca)

**Biography:**

Leana Van der Vliet works at Environment and Climate Change Canada in test method development. She was first introduced to the field of environmental toxicology at the University of Guelph, and she scared off many potential suitors by advertising that she'd like to poison things for a living. Or maybe it was the summer job on the kill floor of a slaughterhouse, we'll never be quite sure. After completing her BSc and MSc at the University of Guelph, she reluctantly left the city she loved so much for Ottawa, to start a job at the National Guidelines and Standards Office at Environment Canada. She moved on to the Biological Assessment and Standardization Section in 2004 and has been there since. Leana counts her years on the Board of Laurentian SETAC (including presidency) among her career highlights. Ottawa has grown on her over the last 15 years, and she enjoys spending time with her three children and husband, going to all the festivals, museums and green space the city has to offer. She doesn't own a cell phone, gets ridiculous with "Just Dance" on the Wii, and enjoys a glass of red wine at the end of the day.