



# How to use the EcoToxChip?

## BACKGROUND INFORMATION

Our project aims to develop, test, validate, and commercialize quantitative PCR arrays (EcoToxChips) and a data evaluation tool (EcoToxXplorer.ca) for the characterization, prioritization, and management of environmental chemicals and complex mixtures of regulatory concern. This builds on our recent successes in developing and prototyping an Avian ToxChip to prioritize chemicals and assess contaminated sites. This approach was immediately embraced by Canadian regulators and other end-users thus providing a template and mandate to scale-up activities here. To date, we have shown that our Deliverables address the needs of diverse end-users.

### Who Will Use EcoToxChips?

Academics



Businesses

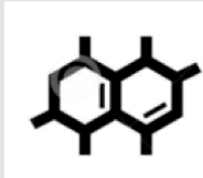


Regulators



### What to Test?

Chemicals



Effluents



Environmental Mixtures



### What can EcoToxChips do?

- ✓ Prioritize chemicals
- ✓ Conduct more efficient compliance testing and monitoring
- ✓ Facilitate hypothesis-driven academic research
- ✓ Quickly assess ecological risks associated with disasters (e.g. oil spill)
- ✓ Alternative to live animal testing (3Rs)
- ✓ Species extrapolation of contaminant risks
- ✓ Save time and costs associated with testing

## TAKE AWAY

The deliverables from our proposed project provide a solution to pressing practical problems in the field of ecological and chemical risk assessment. They meet the needs of our diverse collaborators and end-users for toxicogenomic tools that are in an accessible format while also being affordable, consistent, reliable, and capable of informing regulatory decision-making in a timely and ethical manner for effective chemicals management.

### Notes

Briefing note 2.1 was developed for the Genome Canada-funded project "EcoToxChip: A Toxicogenomics Tool for Chemical Prioritization and Environmental Management"

[www.ecotoxchip.ca](http://www.ecotoxchip.ca) / @ecotoxchip

Project Leads: Nil Basu (McGill University), Doug Crump (Environment & Climate Change Canada), Markus Hecker (University of Saskatchewan)