

Environmental toxicology and risk assessments



Our experience

Streamlined Environmental (SEL) scientists offer specialist expertise in environmental toxicology, including environmental risk assessments. Dr Ngaire Phillips has a PhD in Ecotoxicology, while Dr Mike Stewart's PhD is in Chemistry. Both have practical experience in their specialist fields through research and consultancy positions held in New Zealand, Australia and the UK.

While at NIWA (2003 – 2012), Dr Phillips was involved in laboratory and field-based environmental toxicology projects, ranging from routine wastewater testing to a multi-year research project investigating methods for assessing impacts of heavy metal pollution on marine biota. Since joining SEL, Dr Phillips has applied her specialist ecotoxicological knowledge to a range of projects, as well as in her role as a member of the HSNO Committee for the EPA.

While at NIWA (2006-2014) Dr Stewart undertook both laboratory and fieldwork studies on legacy and emerging organic contaminants (EOCs). He was the lead author on the first harbour-wide study on EOCs in New Zealand (Auckland). Since joining SEL in 2015, Mike has undertaken significant fieldwork and desktop studies on EOCs and is a key scientist in the 5-year MBIE programme on EOCs (2017-2022).

Project examples

- Technical Audit – Ngāti Tūwharetoa Geothermal Assets (NTGA) – Discharge to Tarawera River, Bay of Plenty Regional Council (2020-2021).
- Reconsenting of wastewater discharge consents for Ravensdown Napier plants, Ravensdown Fertiliser Ltd, Napier (2020-current).
- Ecological risk assessments of emerging organic contaminants in Poverty Bay from wastewater overflows and the marine outfall discharge, Gisborne District Council (2019-current).
- Risk assessment of process chemicals used in the refinery process, Refining NZ (2019-current).
- Technical review of Toataoroa Quarry – Ecotoxicity of Residual Flocculant, Waikato Regional Council (2019).
- Risk assessment of antiscalant chemicals at Ohaaki, Wairakei and Tauhara Power Stations, Contact Energy (2017).
- HSNO Committee membership, Environmental Protection Agency (2015 - current)
- Analysis of emerging organic contaminants in the Bay of Plenty (2019 - 2020), Bay of Plenty Regional Council.
- Managing the risk to New Zealand of emerging organic contaminants research programme, MBIE, Cawthron Institute (2017-2022).