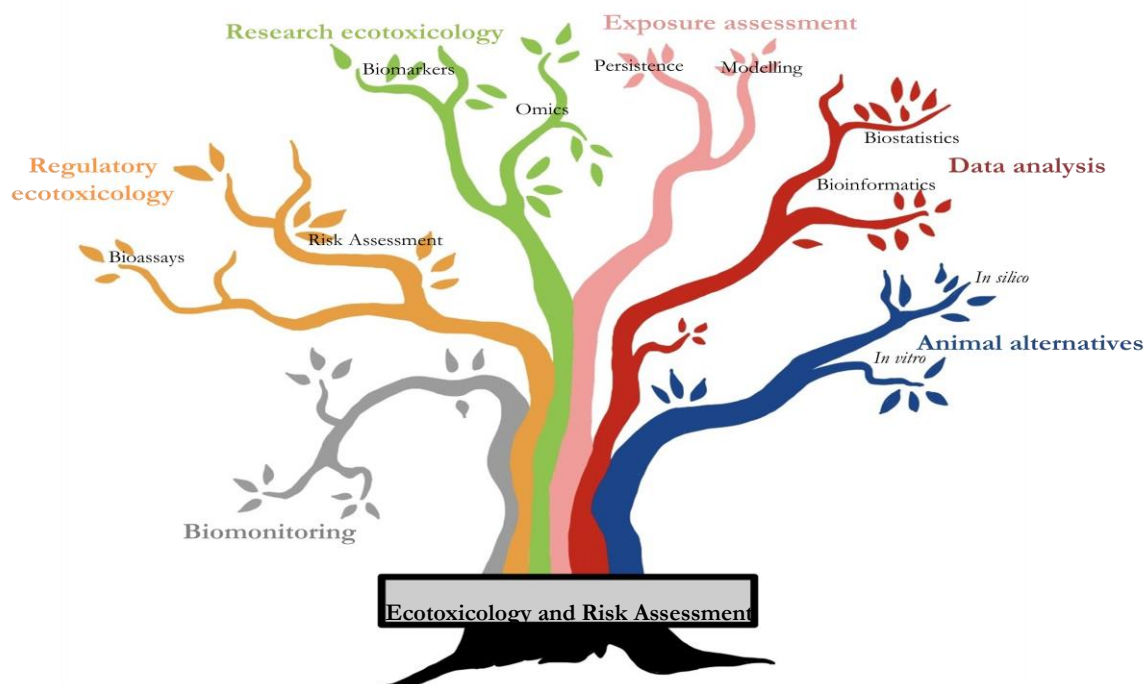


Research activities and method development



Our department encompasses a comprehensive range of environmental hazards and risk assessments pertaining to chemicals. We are dedicated to ongoing innovation, constantly refining, and advancing our methodologies to enhance our ability to evaluate the impact of chemical substances across freshwater and marine ecosystems.

Our main focus is to:

- Conduct fate and effect studies following standardized regulatory-approved test methods (e.g., OECD and ISO), as well as customized assessments.
- Evaluate chemical risks by analyzing their impact on aquatic organisms, with expertise in bioaccumulation, biodegradation, and ecotoxicity testing.
- Develop and execute tailored ecotoxicity evaluations to meet clients' specific needs.
- Conduct research ranging from controlled laboratory environments assessing algae and invertebrates to large-scale fish studies in marine flow-through systems.
- Access one of Northern Europe's largest collections of algae species through NIVA's algae culture repository.
- Utilize advanced methodologies including NIVA's Computational Toxicology Program (NCTP), Bayesian network modeling, fate assessments, biological effect evaluations, and biological monitoring.
- Utilize a comprehensive approach incorporating in silico techniques, in vitro, and in vivo assays for thorough analyses.



Understanding the fate and effects of chemicals in aquatic environments is crucial for assessing risks to organisms. Our Ecotoxicology and Risk Assessment Section conducts biodegradation tests to assess chemical persistence in freshwater and marine environments, adhering to regulatory guidelines such as OECD 301 and 306. We employ a diverse range of test organisms and systems, following regulatory and customized test guidelines, including OECD and ISO standards.

Additionally, our Ecotoxicology laboratory performs biological effects assessments using biomarker responses to elucidate adverse chemical effects. We offer biological effects monitoring for various industrial discharges, including mining, aquaculture, sewage treatment, and oil and gas activities. Our staff are trained in various techniques, measuring effects in tissues, cellular fluids, and whole organisms, with model organisms including fish and mussels utilized in both laboratory and field studies.





Over the years, we have taken the lead and made significant contributions to a diverse array of projects on both national and international scales, including prominent initiatives such as NFR and Horizon2020 projects.

[Here is an overview of some of the projects we are involved in:](#)

Animal alternatives

SPHERTOX – Animal Alternatives and Research ecotoxicology

<https://www.niva.no/prosjekter/sphertox>

<https://www.linkedin.com/in/sphertox-niva-norway/>



RiskAOP - Quantitative Adverse Outcome Pathway Assisted Risk Assessment of Mitochondrial Toxicants

<https://www.niva.no/en/projects/riskaop>



Data analysis

PikMe – prioritization and analysis strategy for chemicals for environmental monitoring

NIVA Radb – NIVA Risk assessment database

<https://www.niva.no/radb>

ETC BE – European Topic Centre for Biodiversity and Ecosystems

https://www.eionet.europa.eu/etcs/etc-be/images/biodiversity_and_ecosystems_2023.png/@images/8c04130e-65ae-4aa9-9196-a9ab9da2a5cd.png

Exposure assessment

Milkys & Milfersk – monitoring of environmental contaminants in biota coastal systems, freshwater environment, and urban fjord

Referanseelver – monitoring of environmental contaminants in biotaPristine rivers

Research ecotoxicology

MicroLEACH - Research ecotoxicology and Regulatory ecotoxicology

<https://www.niva.no/en/projects/microleach>



ENTRANS - Investigating the ENVIRONMENTAL impacts of TRANSformed engineered nanomaterials released from wastewater treatment plants

<https://www.niva.no/en/projects/entrans>

EXPECT - Research ecotoxicology and Regulatory ecotoxicology

<https://www.niva.no/en/projects/expect>



Biomonitoring

CONTRAST - Contaminants of emerging concern: an integrated approach for assessing impacts on the marine environment.

<https://www.contrastproject.eu/>


<https://www.linkedin.com/company/contrast-eu-project/>





Contact

 <https://www.linkedin.com/showcase/niva-ecotox>

 <https://www.niva.no/en/sections/Ecotoxicology-and-risk-assessment>