Workshop Synthesis

ADVANCING BIODIVERSITY PROTECTION

UNIFYING APPROACHES TO CHEMICAL RISK ASSESSMENT IN THE EU CONTEXT

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BACKGROUND - OBJECTIVES

There is increasing focus in the EU and globally on the potential impact of chemical exposure to biodiversity, as evidenced by several initiatives from the European Green Deal, such as the Farm to Fork Strategy, the Zero Pollution Action Plan and the Biodiversity Strategy for 2030 as well as the Kunming-Montreal Global Biodiversity Framework.

Assessing the risk of chemicals on biodiversity is currently hindered by a lack of unified approaches to quantifying the effects of chemical pollution beyond traditional single-species testing. On May 4-6 2026 the ECETOC Biodiversity Task Force organised a workshop bringing together over 40 scientific, regulatory & policy experts to advance biodiversity protection by unifying approaches to chemical risk assessment in the EU context. This poster presents initial outcomes of the workshop.

The workshop objectives were:

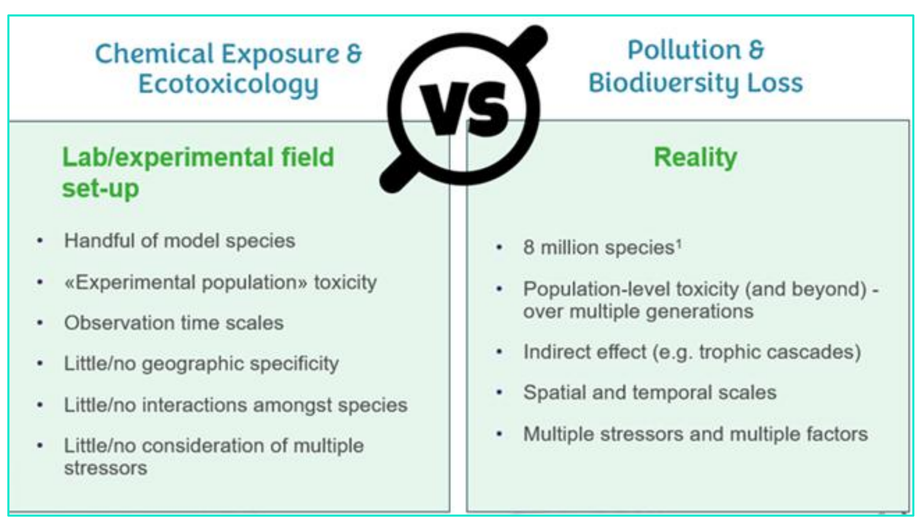
1) Explore available and developing biodiversity definitions, metrics and methodologies relevant to chemical risk assessment.

2) Understanding the landscape of biodiversity metrics used in sustainable finance initiatives and their relationship to chemical safety assessment.

3) Aligning tools and methodologies to achieve the policy objectives: Identify key actions to bridge the gap between existing scientific understanding and policy objectives for better chemicals management.

REGULATORY LANDSCAPE

Across Europe, regulatory agencies align on biodiversity protection goals but diverge in approaches, tools, and the practical challenges of integrating system-level thinking into chemical risk assessment.



[1]www.unep.org/facts-about-nature-crisis

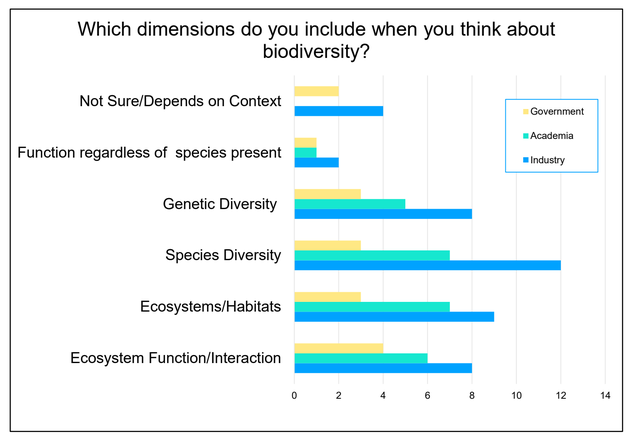
DEFINITIONS – TOOLS – METRICS

The workshop developed the following summary points for biodiversity protection:

Definitions – Broad agreement to use the UN definition of biodiversity (genetic, species and ecosystem functional diversity), but with the need to make it operational for chemical regulation.

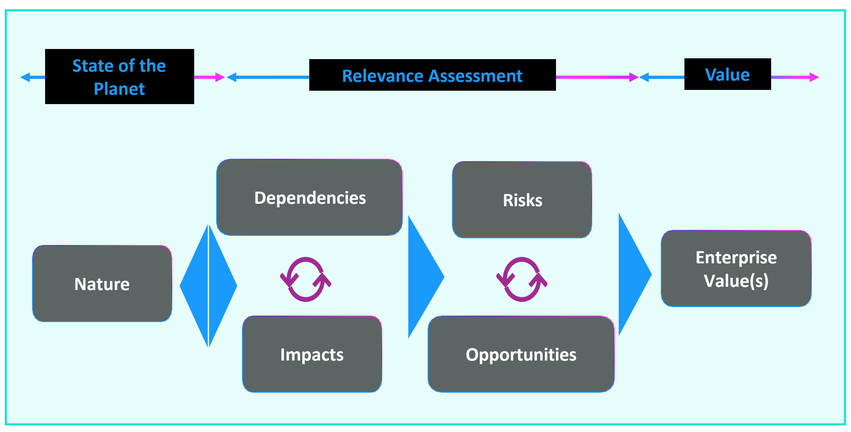
Tools - Shift from siloed approaches to integrated, system-level tools linking lab–organism–ecosystem–societal scales.

Metrics - Adopt complementary, scalable metrics beyond single-species endpoints to capture population, community, functional and taxonomic diversity.



SUSTAINABLE FINANCE

Biodiversity accounting is emerging as a critical enabler for integrating nature into financial decision-making. **Considerations for linking biodiversity metrics (chemicals) to finance practices presented and discussed during the workshop:**



- **Align chemical metrics with financial materiality**.
- **Standardisation across impact drivers**
- **Move from hazard to impact pathways**
- **Enable aggregation and comparability**
- **Spatial and exposure relevance**
- **Bridge monitoring and modelling**
- **Transparency and uncertainty handling**

RESEARCH PRIORITIES & NEXT STEPS

Key research priorities generated from the workshop:

1. **Develop system-based frameworks linking chemicals to biodiversity outcomes** – Integrating exposure, effects, ecological interactions, and co-drivers into holistic models to isolate chemical impacts and support decision-making.

2. **Define and operationalise biodiversity protection goals –** Establish clear, measurable targets and evaluate whether current regulatory approaches adequately achieve them.

3. **Improve lab-to-field extrapolation and ecological realism –** Advance tools to link laboratory toxicity data to population, community, and ecosystem-level effects.

4. **Create harmonised biodiversity metrics and monitoring systems –** Develop standardised, spatially explicit indicators supported by coordinated monitoring and validation.

5. **Build integrated data and modelling tools –** Establish FAIR databases and modelling platforms combining exposure, hazard, biodiversity, and mitigation data to enable cross-sector use.

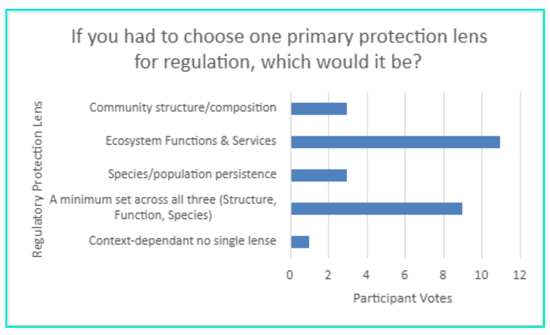
SUMMARY

At the end of the workshop participants were asked "*Where do you see the most work needing to be done related to chemical risk and biodiversity protection?"* Responses highlighted three priority areas: **1) System-level understanding, 2) Operational protection goals, and 3) Integration into risk assessment.**

Need: Link chemical pressures to biodiversity outcomes by integrating ecotoxicology, ecology, and multiple stressors.

Gap: Defining clear, harmonised protection goals and metrics, aligned across stakeholders and regulations.

How: Include geographically explicit exposure data, improved modelling framework, validating approaches (case studies, assessing current environmental risk assessment protectiveness), and ensure relevance to socio-economic and decision-making contexts.



If you are interested in learning more or getting involved, please get in touch or visit the ECETOC webpage for updates:

Contact: info@ecetoc.com