

## Proposals for NORMAN Joint Programme of Activities 2026

<b>Title</b>	<b>Blueprint for linking ecotoxicity to different levels of biodiversity damage, building on and integrating various NORMAN data streams: Focus on workflow example implementation</b>
<b>Type of activity</b>	Research and database development
<b>Leader</b>	Peter Fantke, Goethe University Frankfurt (GUF)
<b>Topic / activities</b>	<p><b>Background / Justification for the proposed activity:</b> Several efforts aim to link chemical toxicity on organisms to damage on biodiversity aspects to provide a quantitative relationship between chemical exposure and biodiversity impact. Despite available metrics and data, there is no agreement on the choice of metric or on an operational workflow that can support prioritisation of chemicals by considering damage on biodiversity. A small-scale workflow showcasing how data and models are effectively integrated into a 'blueprint' illustrating how to connect chemical toxicity to one or more levels of biodiversity damage by specific metrics is hence urgently needed. Such a blueprint could serve as a starting point for conducting larger-scale analyses for different regions, ecosystems and stressors to serve as complementary line of evidence for early warning systems/prioritisation of chemicals, as well as guiding further data generation and model development efforts.</p> <p><b>Description of the proposed activity and expected outcomes for 2026:</b> Main goal of the proposed activity is to create a small-scale 'blueprint' workflow linking chemical pollution to one or more biodiversity measures. As <b>outcome of the 'blueprint' Phase 1 in 2025</b>, an overall concept was developed, leading to the establishments of task-specific working groups, who initiated discussions on the suitability of different metrics, provided an inventory of existing and ongoing studies linking chemical pollution to biodiversity loss, and drafting a manuscript outline summarizing all efforts. In 'blueprint' Phase 2 in 2026, we will build on this initial phase, with focus on integrating specific datasets and models into an example workflow for aquatic ecosystems. Ambition in this phase will be to derive clear recommendations how to apply this workflow more broadly and where further research and data generation efforts are required to operationalize such workflows in support of chemical prioritization.</p> <p>Expected <b>outcomes of 'blueprint' Phase 2 in 2026</b> are to (a) integrate existing example data (from e.g. biomonitoring, target/suspect-screening, monitoring programs, field studies on chemical effects, and toxicity data) in a dedicated workflow, (b) provide an overview of suitable biodiversity metrics, (c) specific recommendations for how to expand or scale up the workflow and proposed metrics as complementary criteria for chemical prioritisation efforts, and (d) a discussion of options for a quantitative link between ecotoxicity data and biodiversity damage as a line of evidence for chemicals management.</p> <p><b>Added value / Link with other NORMAN activities and / or other projects:</b> The proposed activity will support elements related to other NORMAN activities and EU policy:  <ul style="list-style-type: none"> <li>• Provide input for the prioritisation of chemicals under NORMAN WG-1 activities</li> <li>• Complement chemical risk assessment criteria, striving to support the EU biodiversity strategy 2030</li> <li>• Strengthen the link between chemical pollution and biodiversity loss (cf. NORMAN WG-2)</li> <li>• Provide a link between suspect/non-target screening and modelling (NORMAN CWG-NTS)</li> <li>• Contribute to developing European infrastructure (NDS module; cf. JPA2024 Databases)</li> <li>• Help identify contaminants of emerging concern (NORMAN WG-1, WG-2-WG-7, WG-8)</li> </ul> </p>
<b>Participants</b>	<p>The following organisations and their experts will contribute to the activity, while all members of the NORMAN network are invited to join:</p> <ul style="list-style-type: none"> <li>• GUF, Goethe University Frankfurt, Germany (scientific lead): Peter Fantke, Henner Hollert, Francisco Sylvester; source-to-damage modelling, EBMs, ecological modelling and species network analysis</li> <li>• RIVM, National Institute for Public Health and the Environment, Netherlands: Leo Posthuma; ecotoxicity analysis and species sensitivity distributions</li> <li>• UBA, German Federal Environment Agency: Gabriele Treu; regulatory processes and requirements for chemical risk and biodiversity assessment</li> <li>• EI, Environmental Institute, Slovak Republic: Jaroslav Slobodnik; data science</li> </ul> <p><i>It is expected that the NORMAN members who wish to participate in this activity will furthermore ensure that relevant cross-fertilization happens across ongoing and upcoming projects that the respective experts are involved in, while enabling to apply for additional funding and further strengthen collaboration among involved experts and beyond to jointly engage in possible follow-up activities and projects.</i></p>
<b>Proposed in-kind contribution</b>	<p>In-kind contributions to all activities complementary to NORMAN-provided funding:</p> <ul style="list-style-type: none"> <li>• GUF: scientific coordination, expertise on modelling, EBMs, ecology, &amp; biodiversity assessment.</li> <li>• RIVM: knowledge on ecotoxicity assessment and biodiversity damage-level monitoring and analysis.</li> <li>• UBA: administration, knowledge on regulatory aspects and biodiversity impacts from chemicals.</li> <li>• EI: EU projects alignment (e.g. TerraChem), &amp; interaction with NORMAN Database System.</li> </ul> <p><i>All partners will contribute to writing a scientific publication based on the outcomes of the proposed activity, involving other NORMAN members interested to join.</i></p>
<b>Contribution needed from NORMAN Association<sup>1</sup></b>	<p>The duration of the activity will be 12 months. The following estimated budget would be required: Reason: Travels for activity dissemination, activity tasks coordination, and organization of workshops <b>Total estimated costs: 10,000 €</b></p>

<sup>1</sup> Please, provide here a transparent justification of the requested resources and of the in-kind contribution, thereby distinguishing between the costs associated with "person-months" for the organisation, the "travelling costs" for invited speakers and the costs for the logistics (e.g. meals, room rental etc.)