

## **GROUNDWATER BIODIVERSITY AND ITS RESPONSE TO CHEMICAL POLLUTION** USING EDNA METABARCODING

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## RESULTS

First results of taxonomic identification and 18S and 16S eDNA metabarcoding show a high diversity of metazoans, bacteria and eukaryotes in the groundwater of our sampling sites in Hannover. To obtain a complete overview of the biome, both methods should be used in combination.

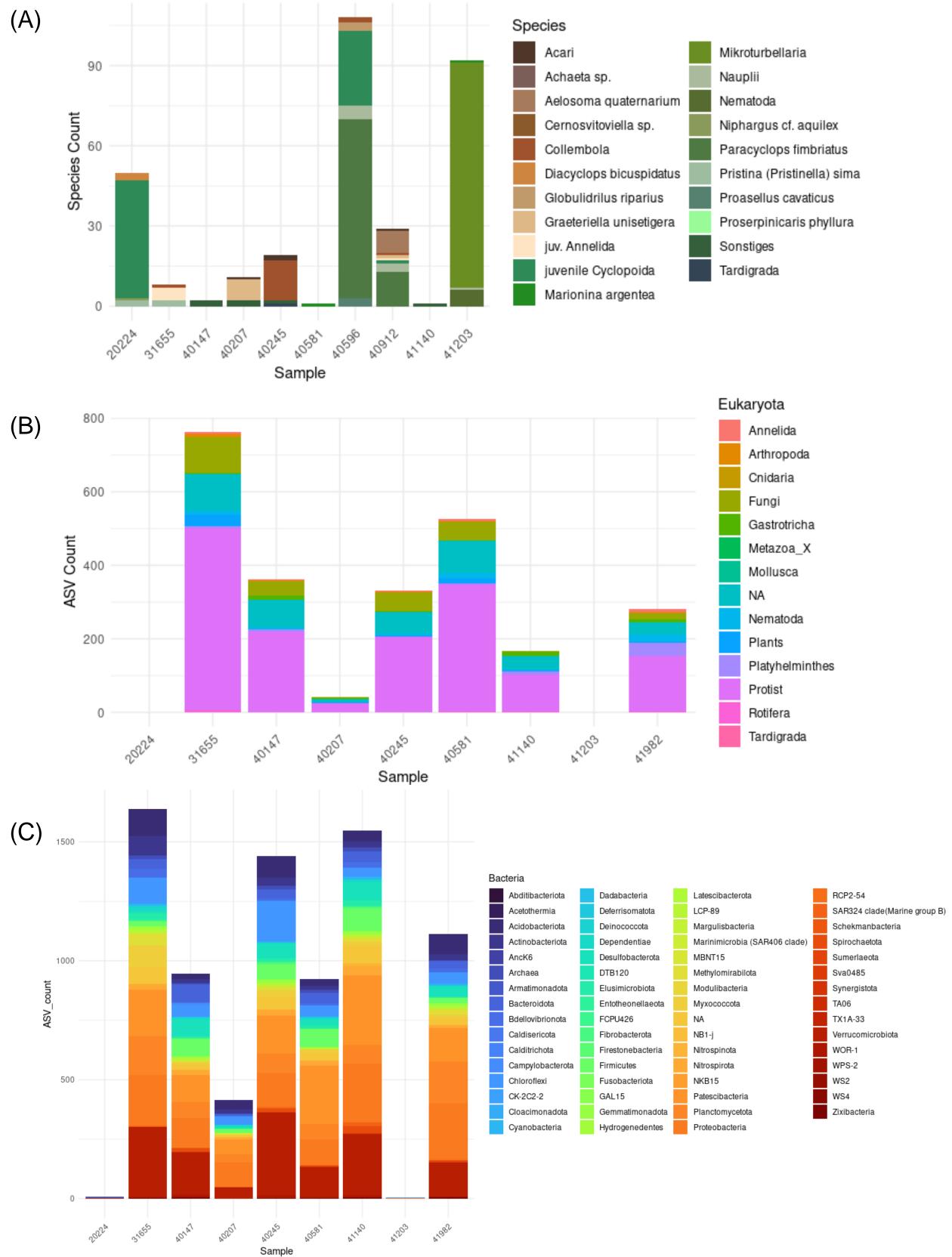


Fig. 2: Taxonomically identified metazoans (A) and major groups of eukaryotes (B) and bacteria (C) identified via metabarcoding in the study area in Hannover.

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GWTRIADE analysis cotoxicolog D Biodiversity Chemical 

Groundwater ecosystems are highly diverse, serve as the most important source of drinking water, and are increasingly threatened by human-induced environmental stressors, such as chemical pollution and global warming. These ecosystems host numerous faunal and microbial communities whose biological interactions are crucial for maintaining groundwater quality but are still not fully understood. The gwTriade project combines the monitoring of **1** faunal diversity, **2** standardized ecotoxicological bioassay methods and <sup>3</sup> chemical analysis to assess the impact of groundwater pollution.

This poster addresses the first pillar of the gwTriade approach using classical taxonomic methods and environmental DNA (eDNA) metabarcoding to determine total **aquifer biodiversity**.

## **DISCUSSION & OUTLOOK**

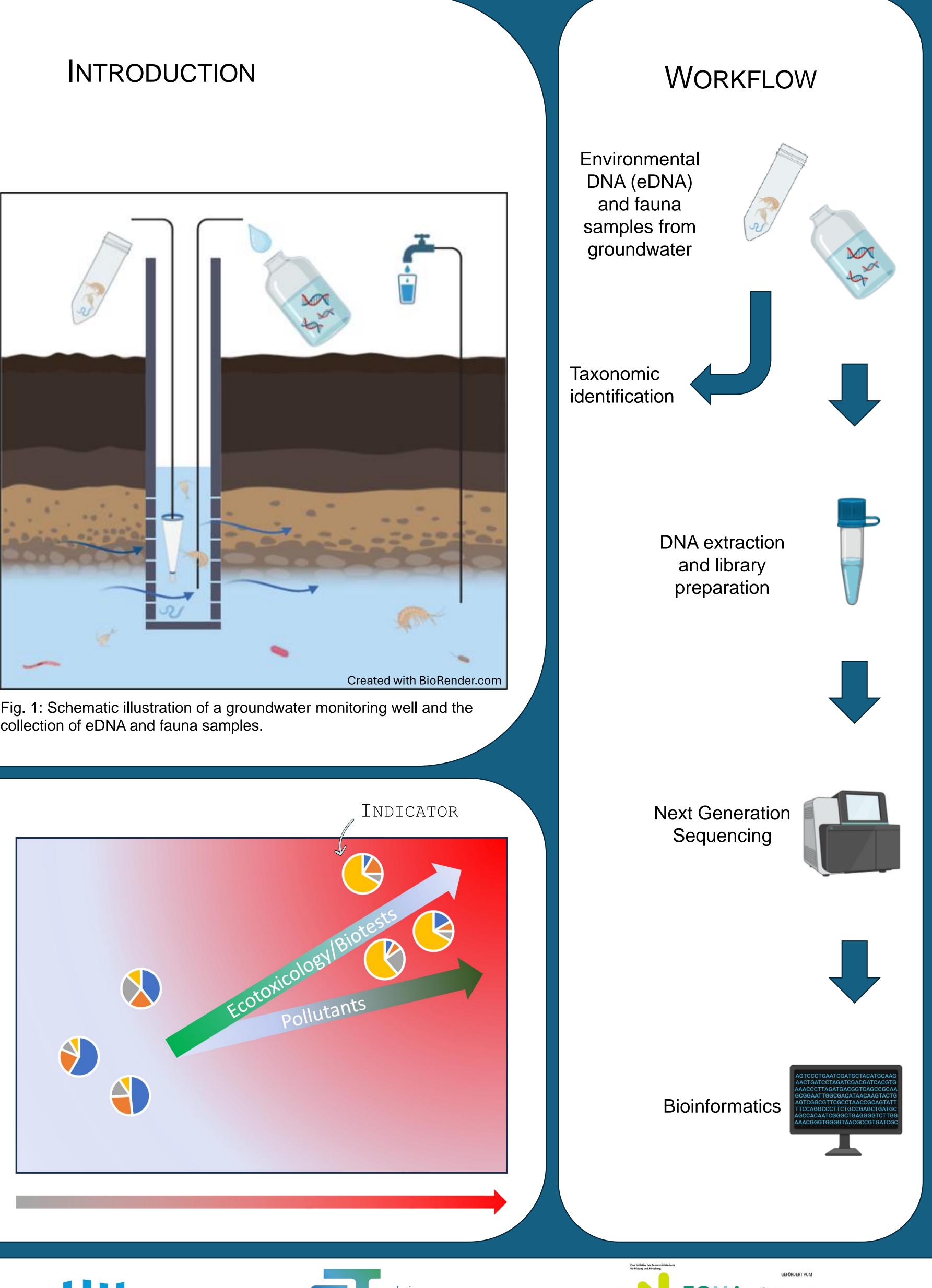
First applications of this integrative approach (fauna and genetic revealed significant community differences among data) closely located wells (~ 10 m) and even among different depth layers (~ 2 m).

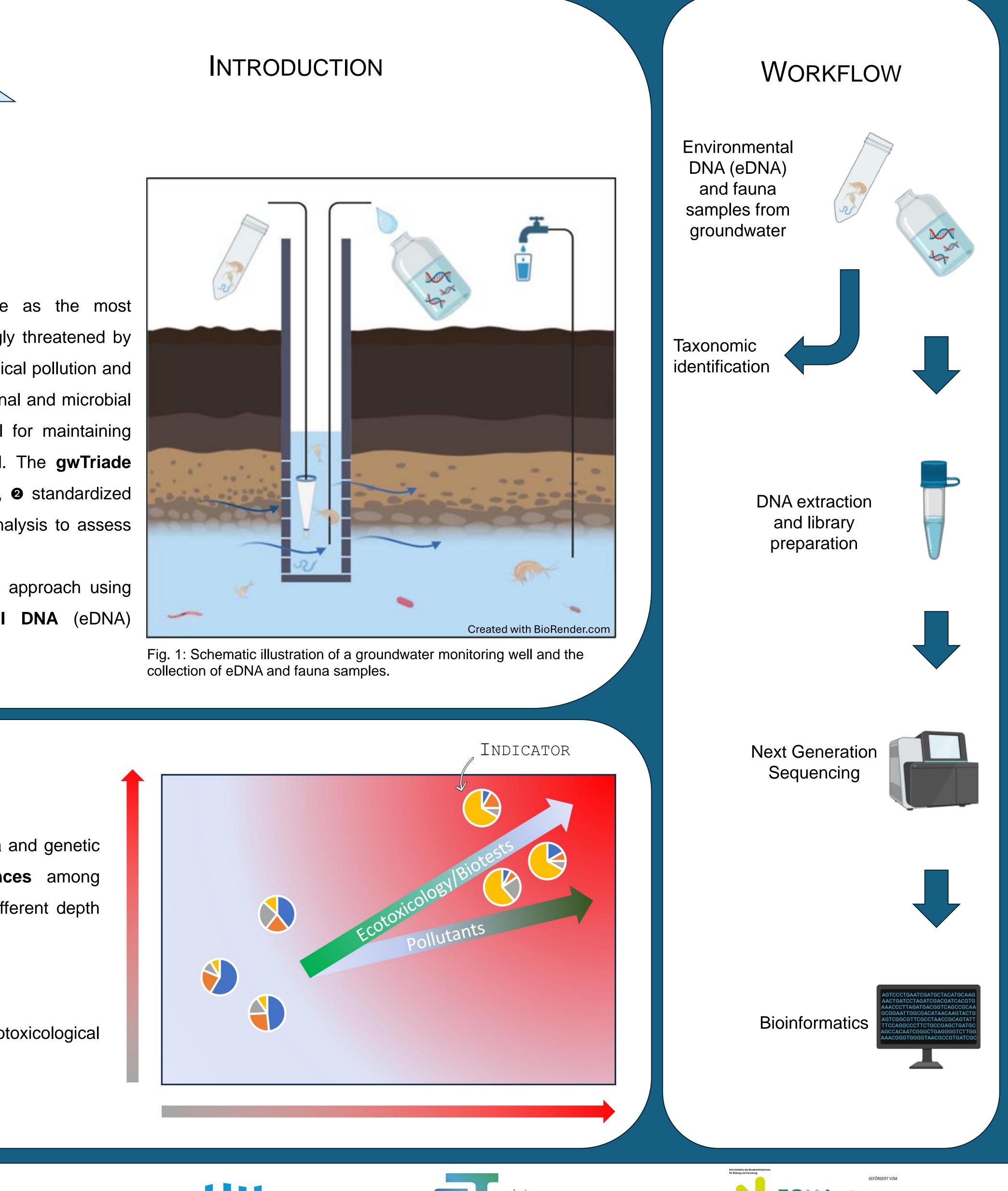
Next steps:

- **Combination** of biodiversity with standardized ecotoxicological bioassay methods and chemical analysis.
- Identification of **indicator species**.











evolutionary ecology environmenta toxicology



Landeswasserversorgung





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Wasser: N

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