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Summary

Elevated levels of contaminants have been identified in a number of sea turtle populations in Australia as well as worldwide. The role of these contaminants on wildlife health is considered to be highly relevant, but difficult to fully understand without knowledge about the internal partitioning (uptake and distribution to different tissues) of the contaminants. The aims of this project are therefore to develop innovative species-specific physiologically based toxicokinetic (PBTK) models for selected contaminants in sea turtles, and to quantify the toxic effect of these chemicals (toxicodynamics) using both *in vitro* and *in situ* bioassays. The results will improve our understanding of the significant link between external exposure and internal pollutant concentrations, as well as provide an important contribution towards an integrative risk assessment of chemical exposure in key species in the Great Barrier Reef.

Research Expertise

- Effect-based analysis
- Bioanalytical tools (*in vitro*, *in vivo*)
- Physiologically based pharmacokinetic (PBPK) modelling (Berkley Madonna, Python)
- Instrumental analysis
- Marine wildlife Ecotoxicology