

MO040 Occurrence and distribution of persistent organic pollutants in tissues of green turtles (*Chelonia mydas*) from Australia A. Weltmeyer, RWTH Aachen University; L. Weijs, G. Dogruer, Griffith University / Australian Rivers Institute; A. Covaci, University of Antwerp / Toxicological Center; H. Hollert, RWTH Aachen University / Institute for Environmental Research. Antonia Weltmeyer¹, Liesbeth Weijs², Gülsah Dogruer², Adrian Covaci³, Henner Hollert¹ ¹Institute for Environmental Research (Biology V), RWTH Aachen University, Aachen, Germany ²Australian Rivers Institute, Griffith University, Brisbane, Australia ³Toxicological Center, University of Antwerp, Wilrijk-Antwerp, Belgium

Persistent organic pollutants (POP) include various anthropogenic chemicals that pose different threats to biota due to their persistence, bioaccumulation and toxicity. They are released into the environment mostly as byproduct of industrial processes (e.g. PDCC/F), directly applied in agriculture (e.g. HCH, HCB) or distributed through incineration (e.g. PCB). While these contaminants have received considerable attention in some marine species, e.g. various marine mammal species, little is known about the bioaccumulation and partitioning of POPs in marine reptiles, such as the green turtle (*Chelonia mydas*). Green turtles spend most of their life time in coastal areas like seagrass meadows and shallow waters where many anthropogenic chemicals are being released into the marine ecosystem. Even though biomagnification is comparatively low due to their mostly herbivorous lifestyle, POPs have been found in several green turtle populations around the world. Research has also shown comparatively higher POP concentrations in urban and rural agricultural areas of Australia. Such chemical pollution can lead to a general decrease of health and reproduction of the already endangered green turtle. In this study, different tissues (liver, kidney, muscle, adipose tissue) of green turtles from southeast Queensland, Australia, were investigated for their POP load. The following contaminants: 25 PCB congeners, 7 PBDEs, DDT and its major metabolite, DDE, 5 chlordanes, HCB, 3 HCHs and 2 naturally-produced methoxylated PBDEs were targeted. Bioaccumulation of POPs depends on several factors such as tissue type, log Kow values of the compounds, and the age of the animals. The influence of these factors on the partitioning and accumulation of the POPs was investigated in the turtles in this study. This study provides new data in order to raise awareness of the environmental pollution and its consequences for marine biota. Furthermore, an in-vitro bioassay for determination of dioxin-like activity (micro-EROD) will be conducted to assess the health impact of the determined POPs on an individual level.