

PERSISTENT ORGANIC POLLUTANTS IN HARBOUR PORPOISES FROM THE NORTH SEA FROM 1990 UNTIL 2008: YOUNG WILDLIFE AT RISK?

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In the European North Sea, harbour porpoises (*Phocoena phocoena*) are top predators with relatively long life spans and a limited capacity for metabolic biotransformation of contaminants compared to some other marine mammal species. As such, they are exposed to a mixture of persistent pollutants, such as polychlorinated biphenyls (PCBs), polybrominated diphenyl ethers (PBDEs), DDT and metabolites (DDXs), hexachlorobenzene (HCB) and chlordanes (CHLs) that bioaccumulate in their tissues. We report here on the levels of persistent organic pollutants in blubber, liver and kidney of harbour porpoise neonates (n=3), calves (n=15), juveniles (n=6) and adults (n=4) of the southern North Sea. Concentrations of almost all contaminant classes decrease slightly in all age groups over the period 1990–2008. For some classes (e.g. PCBs and DDXs) however, levels seem to increase little in harbour porpoise calves. In all animals, blubber had the highest concentrations, followed by liver and kidney, whereas liver and kidney were the preferred tissues for several compounds, such as octa- and deca-PCBs. Our data suggest that harbour porpoises calves are exposed to higher or comparable concentrations of POPs and somewhat different patterns of selected POPs than adults, potentially placing them, and the entire population, at a disproportionate risk for exposure-related health effects.