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Baseline levels of Pops and MeO-PBDEs in melons, mandibular fat, blubber and liver of Harbour porpoises from the North Sea

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Previous studies have suggested that pollution can lead to impaired immune systems in marine mammals, thereby leading to illnesses. For conservation purposes, it is therefore useful to follow up on the pollution status of these animals. Over the years, this has been done mainly by analyzing blubber samples because blubber is the primary tissue for storage of lipophilic compounds. Levels of persistent organic pollutants (POPs) and methoxylated polybrominated diphenyl ethers (MeO-PBDEs) are typically high in marine mammals worldwide including in harbour porpoises from the European North Sea. In the European North Sea, harbour porpoises are top predators and a key species in the North Sea ecosystem which makes them worthwhile to investigate. In the present study, levels of POPs and of MeO-PBDEs were analyzed in blubber, liver, melon and mandibular fat samples of harbour porpoises from the North Sea. Of these four tissues, melon and mandibular fat are metabolically inert, whereas blubber and liver are not. Blubber and liver were included to allow comparisons with previous studies and species and to be able to use the existent bioaccumulation models for harbour porpoises. Melons and mandibular fat samples will allow the expansion of the current bioaccumulation models with two more compartments and the subsequent investigation on how and if the patterns and trends of POPs and MeO-PBDEs in the melon and mandibular fat resemble those in the blubber and liver.