

Heavy metals in Ria de Aveiro (Portugal) sediments - potential impact on seabirds

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Ria de Aveiro is a coastal lagoon with shallow waters, in central Portugal. It is a natural area known for its biodiversity and intense anthropogenic activities in the surrounding area. The objective of this work was to characterize sediments collected in Ria de Aveiro and assess its potential ecological and toxicological risk to local seabirds. Samples were sieved and dried and submitted to X-ray Fluorescence (XRF) for chemical analysis, X-ray Diffraction (XRD) to identify different mineral phases and Scanning Electron Microscopy (SEM/EDS) for individual particles identification, morphology and chemical semi-quantification. Particles size fraction more representative was the silt one, in all samples. Chemical analysis results showed actual heavy metal contamination, with potential toxic elements, with concentrations above sediment quality guidelines for the protection of aquatic life. Pollution indexes also revealed ecological and toxicological risk to seabirds.