Distribution of trace metals in the sediment and seagrass *Posidonia oceanica* from Golfe de Juan, northwestern Mediterranean

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This study was conducted along the coastal zone of Golfe de Juan (France), which has been exposed to wastewater from a sewage treatment plant (STP) since 1982. The STP was upgraded in 2008 to improve wastewater treatment but the trace metals that were released to the sea prior to the STP upgrade may have accumulated and remains in the sediment. In order to test the hypothesis that sediment-bound trace metals persist in areas near the STP (impact sites), the concentrations of As, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, V and Zn in the sediment and the various compartments of *Posidonia oceanica* (i.e. old, intermediate and young leaves, rhizomes and roots) from 3 impact and 2 control sites were measured and compared. Results show a significant difference in the concentration of trace metals between the impact and control stations. The cation exchange capacities of the sediment from the impact sites are higher than the control sites. The amount of metals in the roots of *P. oceanica* appears to drive the spatial variability with respect to the different plant tissues. The implications of these observations on the management of trace metal contaminants in the study area are discussed.