



S4.P4 Bioaccumulation of trace elements in Kentish plover (*Charadrius alexandrinus*)

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The Kentish plover *Charadrius alexandrinus* is a small wader of Family Charadriidae, breeding in wetlands and coastal areas of Europe, North-Africa, Middle-East and Central-Asia. Its population size is declining all over its distribution range, and the cause of the decline has been recognized in habitat loss and fragmentation, increased human uses of the sandy coastal areas for commercial and recreational purposes, and increased predation by birds and mammals taking advantage of human activities. In contrast, the possible contribution of environmental contamination to the decline of the species has been largely disregarded. To verify whether contamination may be a factor affecting conservation status of Kentish plover populations, a non-invasive study of trace element accumulation in tail feathers of the Kentish plover was performed along the coastline of the northern littoral strip of the Venice Lagoon. Body burdens in feathers of 11 trace elements including toxic metals/metalloids and essential elements (As, Cd, Co, Cr, Cu, Hg, Ni, Pb, Se, V, Zn) were quantified by ICP-MS, then concentrations were normalized to feather's age calculated using ptilochronology in order to obtain daily deposition rates. Mercury emerged as a major threat to the conservation of the species at local scale: feather concentrations were above the adverse-effect threshold ($5000 \mu\text{g kg}^{-1}$) in 11 out of 13 analyzed birds. These data underline a probable risk of Hg-related toxicosis, that may lead to impairments in the reproductive success of KP, and of other water birds with similar feeding habits. Also Cd and Se occurred at levels that may impact on the conservation status of the studied species at local scale, even if to a lesser extent than Hg.