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Graduate school
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**The Thesis Submitted for the Degree of Doctor of
Professionals (in the Field of veterinary medicine)**

**Measurement of some heavy metals
and trace elements in the feathers of
coot in Hamoon habitat**

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Abstract

Heavy metals are one of the most important toxic pollutants in aquatic ecosystems that aquatic birds in them are exposed to many pollutants. Birds can be useful indicators for measuring heavy metal pollutions due to their high nutritional level in ecosystems. They can also provide some useful information about contamination spread throughout the food chain.

The aim of this study was measuring the density of some heavy metals such as: zinc, copper, lead, mercury and cadmium in feathers of Changar birds which are habitat in Hamoon habitat and compare them with international standard levels. For this purpose 22 sample of feather were randomly collected from 22 different pieces of Changar birds which were inhabitat in different areas of Hamoon wetland. Then, these samples transferred to the laboratory in order to chemical digestion and measurement by ICP machine.

The results of this study show that the density of some of these heavy metals such as aluminum is higher than the global standards. The reason of this result can be using of aluminum element in water purification industry. The average density of some metals, such as Iron, manganese, chromium, and zinc were within international standards and were not close to the levels that can show toxic effects in the intended bird. Elements of copper, cadmium, mercury, and barium were also measured and they were not present in the feathers of birds.

Keywords: Heavy metals, Feather, Sistan region, Coot, Pollution