

Investigation of changes of some elements in *Phragmites australis* Naseri Lagoon in spring and autumn

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Abstract

This study aimed to determine the amount of heavy metals cadmium and lead in *Phragmites australis* in parts of northern, central and southern from Naseri Wetland and comparison of these metals in root, stem and leave was conducted in autumn 2016 and spring 2017. For sampling were collected at any station in each season *Phragmites australis* with three replications of 10 samples around the wetland. The measure of heavy metals was performed atomic absorption spectrophotometry by Perkin-Elmer 4100. The highest and lowest amount of cadmium was in the roots (0.054 ± 0.003 ppm) and stem (0.015 ± 0.001 ppm). Also, the highest and lowest amount of lead was observed in the *Phragmites australis* of roots (0.808 ± 0.006 ppm) and stem (0.252 ± 0.004 ppm). The average cadmium in the roots, stems and leaves of *Phragmites australis* in autumn was 0.033 ± 0.002 , 0.019 ± 0.001 and 0.022 ± 0.002 ppm and in the spring, 0.038 ± 0.005 , 0.030 ± 0.004 and 0.036 ± 0.005 ppm, respectively. The average lead in the roots, stems and leaves of *Phragmites australis* in autumn was 0.395 ± 0.0026 , 0.324 ± 0.005 and 0.347 ± 0.005 ppm and in the spring, 0.773 ± 0.009 , 0.667 ± 0.007 and 0.734 ± 0.006 ppm, respectively. The average concentration of lead and cadmium were observed in roots higher than stems and leaves. Accumulation of cadmium and lead were in organs of *Phragmites australis* in autumn and spring root> leaf> stem. Accumulation of Cadmium and lead was of *Phragmites australis* in spring than autumn respectively.

Keywords: metals, cadmium, lead, *Phragmites australis*, Naseri Wetland.