



SADRŽAJ PB I NI U DUNAVU PB AND NI CONCENTRATIONS IN THE DANUBE RIVER

ABSTRAKT

U ovom radu su prikazane prosečne godišnje vrednosti sadržaja teških metala olova i nikla u nefiltriranoj vodi Dunava (za 2013. i 2017. godinu) na delu toka reke Dunava kroz Republiku Srbiju, na 10 monitoring stanica koje su deo državne monitoring mreže Republike Srbije. Vrednosti su određene na osnovu mesečnih merenja. Može se primetiti značajno prisustvo Pb i Ni u vodi Dunava u Srbiji. Na većini mernih stanica prosečne godišnje koncentracije Pb i Ni za 2017. godinu su niže nego one za 2013. godinu. Najveći problem predstavlja veoma visok nivo koncentracije nikla u vodi Dunava, naročito na lokalitetu Bezdana, na ulasku reke Dunav na teritoriju Republike Srbije.

Ključne reči: nikl, olovo, reka Dunav, Srbija

ABSTRACT

This paper shows the average yearly level (for the years 2013 and 2017) of heavy metals Pb and Ni in unfiltered Danube water on the Danube course through Republic Serbia, for 10 monitoring stations that are part of the Serbian monitoring network. Measurements were done monthly. Significant presence of Pb and Ni in Danube water is noticed. At most monitoring stations the average yearly concentrations of Pb and Ni for the year 2017 is lower than for the year 2013. The most important problem is the high level of nickel, especially at the location of Bezdana, on the entrance of the Danube River in Republic Serbia

Key words: Lead, nickel, Danube River, Serbia

UVOD

Jedan od ključnih problema današnjice je zagađenje vode. Zagađenje reka je jedan od najvažnijih problema životne sredine u svetu, u današnje vreme (Duolo,2008; Ekubo,2011). Najznačajniji izvori zagađenja reka su antropogenog porekla: nehigijenski način života, industrija, poljoprivreda, ispuštanje otpadnih voda, deponije, primena otpadnih voda u svrhe navodnjavanja... (Adesuyi,2015; Dan,2013). Upravo zato što se rad o globalnom problemu, međunarodna i nacionalna zronska regulativa je usmerena na primenu mera da bi se smanjilo zagađenje. Ovo se u praksi sprovodi kroz redovne kontrole i monitoring.

Hemijsko zagađenje ima najveći uticaj na ljudsku populaciju i vodene ekosisteme. Većina hemijskih supstanci se ispušta u vode usprkos riziku po životnu sredinu. U vodenim sredinama, naročito važnu ulogu igraju metali (Worms,2006).

INTRODUCTION

One of the key issues of today is water contamination. Rivers contamination has been one of the most important environmental world problems of today (Duolo,2008; Ekubo,2011). The most important sources of rivers pollution are of anthropogenic origin: unhygienic living, industry, agriculture, sewage leaks, landfills, application of wastewater for irrigation... (Adesuyi,2015; Dan,2013). Because this is a global problem, international and national legislation is aimed at implementing measures to reduce pollutants. This is achieved through regular control and monitoring.

Chemical pollution is one of the most critical threats to human population and aquatic ecosystem. Many substances from industry are released into waters despite of the environmental risk. In aqueous environments, the chemical speciation of metals plays an important role (Worms,2006).

The Danube river, the most important European river

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