

## THE QUALITY OF SPRING WATERS OF FRUSKA GORA (VOJVODINA)

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### Abstract

During the period from September 2011 to February 2012, the monitoring of spring, surface and groundwaters of Fruska Gora on 8 permanent and 15 temporary points for sampling was carried out. The water points on the three sources in the Old Ledinci and Sremski Karlovci were selected for sampling. The spring waters were established to have increased contents of: orthophosphates (0.27-0.5 mg/l), phenols (0003-0118 mg/l) and boron (0.5 mg/l). These parameters were above the MAC (regulated by law) for the use of water for drinking, bottling as well as in the production of consumable fish ponds. The samples were taken in Sremski Karlovci in the period from 2003 to 2012.

**Keywords:** orthophosphates, phenols, springs

### Introduction

Fruska Gora is located easternmost within the chain of horst Slavonian mountains. It belongs to comparatively low mountains, because its highest peak Red Cot barely exceeds 500 m. Morphologically, the mountain stretches east-west being 80 km lengthwise and up to 15 km widthwise. It has an elongated lens-like shape and covers an area of 500 km<sup>2</sup>. Its northern border is the River Danube, while the southern boundary is approximately the contour of 100.00 m above sea level, stretching along the line of Sid-Erdevik-Irig- Maradik-Krcedin-Old Slankamen.

This paper presents some preliminary results for spring water on the northern slopes of Fruska Gora. Water samples were collected from the Lazin water springs near the village Ljubi in the western part of Fruska Gora, then from the water springs in the Old Ledinci on the northern slopes as well as from those of Mutica and Varadinska fountain in Sremski Karlovci.

### Materials and method

Throughout the annual survey, 12 observation points for field and laboratory tests were determined. The basic unit for the reinterpretation of existing documentation and setting up observation points network was the basin topography and hydrogeology. In terms of their type of porosity, sediment genesis and manner of occurrence in the basin, the water sources could be divided into the spring, surface and ground water (Stojiljkovi , 2003; 2004a; 2004b; 2005a; 2005b).

When interpreting the results, the longer time series of various parameters of the chemical composition of spring water were used, the better they enabled the use of the statistical method. Its program STATISTICA, version 10, was used.

At the western, northern and eastern slopes, the points on the cadastral number 4, 6 and 8 (Fig. 1, 4), were set. The two complete and two shortened (only for some micro-components and organic matters) analyses were made (Table 1).













