

ABSTRACT

The final thesis is focused on the influence of artificial snow on the water quality and sedimentation of the Elbe River, Úpa River and the Green stream in Krkonoše.

The introduction part involves the literature retrieval which is concerned with the theory of artificial snow-fall, which method is used to develop the artificial snow, the description of added substance which are used for improvement of snow freezing. It is also concerned with its negative influence, especially by addition of added substances such as chloride and nitrate salts or the biokleátor „Snowmax“. The introduction part also involves the description of the situation with growing number of ski centres in the Czech Republic and abroad. The next chapter is focused on general Krkonoše characterization and the chosen rivers.

In the next part is described the character of special water indicators, description of extraction places and work methods. The thesis is conceived as an experimental research. The work results contain the valuation of water, sedimentation and snow quality.

By the water evaluation according to the government regulation nr. 61/2003 Sb. and particularly to the norm ČSN 75 7221 was found a larger organic contamination (TOC, BSK_5 , $CHSK_{Mn}$). It was also found a larger contamination especially by ammoniacal, nitrite and nitrate nitrogen which was at some experiment places evaluated as the third class of pollution. In the sedimentation was approved a higher concentration of zinc, slug and quicksilver. It was discussed the possibility of influencing these indicators by artificial snow production and the results were compared to similar studies abroad.

The conclusion involves the results evaluation, characterizes the impact of artificial snow-fall and forecasts possible changes for the future.