

Integrated management of river water quality

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Global warming and land use influence the quality of rivers in Switzerland. Which influences have a negative effect on water quality? What must be undertaken to maintain good water quality?

Background

Global warming as well as the way in which land is used will have a significant influence on the quality of our watercourses in the coming decades. Due to global warming, the temperature in rivers will increase and the rate of flow will change. Agricultural, industrial and traffic uses add pollutants to the rivers. Nutrients, pollutants and fine sediments will increase or decrease in rivers. These changes affect water organisms and ecosystems, although, at this point in time, very little is known about these influences.

Aims and methods

This project develops decision-making support that will make possible the assessment and minimization of negative effects on the ecological state of watercourses. For this purpose, various measures linked to the management of rivers and their surroundings will be examined. Three types of information will be combined: firstly, means of action will be compiled in collaboration with representatives of the authorities and associations from the area of the Mönchaltorfer Aa and the Gü rbe. Secondly, the various conditions of watercourses – e.g. with regard to fish health – will be evaluated. Using these results, the influence of the management measures can be assessed. This will also be done jointly with the various stakeholders. Thirdly, a model will be developed to describe the effect of measures on water quality and aquatic plants and animals. This model will look several decades into the future and will therefore be subject to significant uncertainties. Therefore, the project will show how such uncertainties can be taken into account when making decisions concerning management measures.

Significance

Using a comprehensive approach, all the important aspects of water quality will be examined. The project will show which risks may be of major concern in the future. The results will help to set the correct priorities when choosing measures for the protection of water quality in rivers.