

Quantification of nutrient fluxes on catchment scale as basis for evaluation of the effectiveness of mitigations options in Austria and the Danube Basin

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This contribution is going to deal with the actual status of the quantification of nutrient fluxes on catchment scale in Austria and the Danube Basin. Actual efforts will be presented. The strength of the used approaches will be shown and short comings will be discussed.

Actual results show the sectoral and spatial focal points of nutrient emissions. One interesting outcome is that the nitrogen emissions from agriculture into the air exceed the emissions directly to the water system. Related to that, the high importance of the atmospheric deposition on mountainous areas can be documented for nitrogen inputs in the water system of alpine regions in Austria. The area specific nitrogen emissions in some mountainous areas without significant agricultural activity exceed the values from areas with high agricultural activity of the hilly and plain parts in Austria and the Danube Basin. Due to the high transport distances of airborne nitrogen, this means that the location of emission to the air (mainly from husbandry and traffic) is disconnected from the effects on the water system. Future mitigation strategies will have to specifically address airborne nitrogen.

Upcoming research activities will have a special focus on the quantitative assessment of nutrient inputs from mountainous areas into the water system. This contribution will finally address the planned activities.