

Current Status of Nitrogen Saturation in the Upper Reaches of the Kanna River, Japan

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Abstract : Nitrogen saturation has become one of the serious issues in the field of forest environment. The watershed protection forests located in the downwind hinterland of Tokyo Metropolitan Area are believed to be facing nitrogen saturation. In this study, we carefully focus on the balance of nitrogen between load and runoff. Annual nitrogen load via atmospheric deposition was estimated to 461.1 t-N/year in the upper reaches of the Kanna River. Annual nitrogen runoff to the forested headwater stream of the Kanna River was determined to 184.9 t-N/year, corresponding to 40.1% of the total nitrogen load. Clear seasonal change in NO₃-N concentration was still observed. Therefore, watershed protection forest of the Kanna River is most likely to be in Stage-1 on the status of nitrogen saturation.

Keywords : atmospheric deposition, nitrogen accumulation, denitrification, forest ecosystems

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