

Evaluation for load of bioavailable particulate phosphorus during rain events from Yasu river, at Lake Biwa catchment

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It is well known that primary production in Lake Biwa is limited by phosphorus, and that means phosphorus load into Lake Biwa influence on its environment. In general, it is considered that algae in lake use $PO_4\text{-P}$ as a phosphorus nutrient, however, it has been revealed that a part of particulate phosphorus (PP) also might be used as nutrient in recent study. However, there are a few studies that quantify the load of bioavailable PP discharged through river in Japan. The purpose of this study is to quantify the load of bioavailable PP discharged through Yasu river into Lake Biwa during rainfall events. Water samples were collected at one to six hours interval in two rainfall event (May and July) in Yasu River using automatic river water collector. We measured several forms of PP by sequential extraction methods (ammonium chloride, bicarbonate dithionite, NaOH, HCl extraction) in river water sample. In rainfall event in May and July, about 70 - 90 % of PP was bioavailable and that part were larger than $PO_4\text{-P}$ load from Yasu river, indicate that PP discharge from river have large impact on primary production in downward lake.