

B407 Transportation pattern of turbid storm runoff in Lake Soyang

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We investigated transportation pattern and thickness of turbid storm runoff coming into a deep reservoir, Lake Soyang. Vertical profiles of temperature, turbidity and total suspended solids concentration were measured at nine stations from dam to plunge point in summer of 1996 and 1999. Turbidity was much higher(2~78NTU in 1996, 1~155NTU in 1999) in the rainy seasons than in the dry seasons(1-3NTU in 1996 and 1999). Storm turbid flow were vertically mixed until it reach plunge point, where it dived into deeper layer. After the turbid water passed the plunge point, it flowed into metalimnion along the layer of same density. The altitude of turbid metalimnion was 130~160m in 1996, and 120~180m in 1999. Volume of turbid water in mid August was 7.3×10^8 tons in 1996 and 16.9×10^8 tons in 1999 when showed greater inflow and rainfall compared with 1996. Thickness of turbid water was influenced both by rainfall patterns and discharge of the dam.

B408 Temporal and Spatial Distribution of Primary Productivity of Size-Fractionated Phytoplankton in Lake Kizaki, Japan.

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Primary productivity was measured by using ^{13}C tracer method from March 1998 to June 1998 in Lake Kizaki, Japan. Plankton was divided into two size groups. $<150 \mu\text{m}$ and $<20 \mu\text{m}$. Photosynthetic activities were measured at the depth of about 100, 50, 25, 5, 1% of surface irradiance. The highest maximum primary productivity(P_{max} , $46.17 \mu\text{gC}/\ell/\text{hr}$) and specific production rate(SPR, $26.446 \text{ mgC}/\text{gC}/\text{hr}$) of $<150 \mu\text{m}$ phytoplankton(LP) were observed on 29 June. In the case of $<20 \mu\text{m}$ phytoplankton(SP), the highest P_{max} ($6.56 \mu\text{gC}/\ell/\text{hr}$) was observed on 9 May, though the highest SPR($17.9 \text{ mgC}/\text{gC}/\text{hr}$) was observed on 29 June. The standing crop of LP increased steadily during survey period from March toward June, but SP didn't. LP was relatively higher in the surface water(100-25% of surface irradiance), whereas SP was relatively higher in lower irradiance layer(25-1% of surface irradiance). It could be concluded that size-fractionated phytoplankton has different temporal and spatial variability in both the SPR and biomass.