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渡辺仁治・金近美佐子：DAIpo の止水域への適用—奈良県室生ダム湖の場合—*

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Abstract

The Muroo Reservoir has been used as the source of water supply to Nara city and its neighbouring towns of the Yamato plains and the source of irrigation water. Since the River Uda-gawa being main inflow of the reservoir was polluted remarkably, the water of this lake has been eutrophicated.

In this investigation, we applicated DAIpo value developed to assess the water quality of rivers by Watanabe and others (1986) based on the species components of epilithic diatom communities as the biological indicator to monitor the water quality of this reservoir.

The following became clear after the investigation.

The speed of self purification is high at the upper basin and low at the lower in the Muroo reservoir.

The River Temma-gawa have a little flux and high polluted water quality, pollutes the water of this reservoir again by it's inflow at St.3.

So, we can make a synthetic judgement to the change of water qualities through the water system, e. g. inflow, lake and it's outflow, applicating of DAIpo to the lentic environment.

Synthesizing the results of this study and those of Watanabe and other's study on several reservoirs, it will be able to classify the system into next three types.

1. Water quality of the reservoir is nearly same to that of inflow. In these reservoirs, water from inflow stagnate for a short period in the reservoir.
2. Water quality of the reservoir is more inferior than that of inflow. In these reservoirs, water quality of inflow is comparatively clear, and stagnate for a long period in the reservoir.
3. Water quality of the reservoir is more clear than that of inflow. In these reservoir, water quality of inflow is high polluted and stagnate for a long period in the reservoir.

Key index words

DAIpo ; attached diatom assemblage; reservoir.