

**Water pollution of artificial old reservoirs for irrigation in Seto Inland Sea area, Western Japan**

# Yoshiki Koyama[1]; Namiko Ohsumi[2]; Koichi Kitaoka[3]

[1] Grad. Sch. Sci., Okayama Univ. of Science; [2] Science, Okayama Univ. of Science; [3] Appl Sci, Okayama Univ of Sci

Many artificial old reservoirs for irrigation are distributed in the Seto Inland Sea area, where annual precipitation is very low as 1000 mm a year. The water quality of reservoir, especially in electrical conductivity, varies widely from pond to pond, and changes seasonally. Pond waters may influence to water quality of river water, groundwater and lake water in the neighborhood through irrigation, seepage and overflow of pond. It is important to clear how the water quality of high electrical conductivity is produced in the area from the viewpoint of local water environmental problem. Periodic observations for water quality of surface water at several ponds and for vertical profile of water quality in a pond have been made for a year. By estimations of water and material balances using pond water and inflow water such as spring water, canal water and rain water, it is found that all the ponds are supplied in a great part with fresh groundwater of very low electrical conductivity as well as river water, spring water and precipitation even for ponds with high electric conductivity. Thus, all the artificial reservoirs in the area are considered to have been clear in the old time. The water quality of ponds in this area at present must have been influenced strongly by land use such as agriculture, fruit garden, cattle breeding, and disposition.