

## Surface water ? groundwater interaction and its effect on nutrient transport; the example in Hachiro-gata

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We examined to confirm the surface water-groundwater interaction in Hachiro-gata of Akita prefecture and nutrient transport with the water flow. Hachiro-gata have decreased since 1960s. The reclamation land touches mainly at the east and south side to Hachiro-gata. The height of the reclamation land is lower than the lake water level. Water flow in the underground between the lake and land would have the stable direction from the lake to the land. Because the eutrophication often occurs in Hachiro-gata lake, the nutrient would accumulate in sediment. We installed three piezometers at the bankside of the lake and reclamation land, respectively. The water levels were monitored from September to December in 2013 and water samples were collected in September and December in 2013. We confirmed water flow from the lake to the land with the gradient of from 0.05 to 0.1. In addition, DOC and nutrient concentrations of groundwater were higher in the land than in the lake and lake water. The lake water has recently eutrophic condition, and so many organic matter originated from phytoplankton are deposited. The porewater in the lake bottom near the bank had the high nutrient and DOC concentrations. Based on this research, we can make a hypothesis of nutrient conversion from the lake to the land with groundwater flow.

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