

## **River-mouth dam effect on integrated management of a coastal water resource in a Seto Inland Sea watershed, Western Japan**

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**Abstract** To evaluate the groundwater resource in the coastal area of the Ashida River, which is one of the catchment of the Seto Inland Sea, we tried to estimate the variation of the volume of “fresh” groundwater (no seawater intrusion) before and after the construction of the river-mouth dam. The result suggests that it has increased since the dam construction in 1978, apparently by the shift of the brackish–freshwater boundary from inland to the coastal line. The volume of brackish water was estimated to be approximately twice that before 1978. The result suggests that the coastal groundwater is a valuable freshwater resource in the study area for the future.

**Key words** coastal groundwater; water use; qualitative problem; city water supply; river-mouth dam