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[\[PDF \(513K\)\]](#) [\[References\]](#)**Distribution and speciation of Fe(II) in the waters of Lake Biwa and inflowing rivers**[Masahiro MARUO](#)<sup>1)</sup>, [Masanori TODA](#)<sup>1)</sup>, [Tomoko SATORI](#)<sup>1)</sup> and [Hajime OBATA](#)<sup>2)</sup>

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**Abstract**

The extraction method of Fe(II)-ferrozine complex was modified to achieve detection of nanomolar concentrations of Fe(II) in freshwaters. This method was applied to investigate the distribution of trace Fe(II) concentrations in the oxic environments of Lake Biwa and its inflowing rivers. In the north basin of the lake in November 2005, surface water samples showed the maximum concentration of dissolved Fe(II), and its ratio to total Fe(II) concentration had also showed the maximum compared with those sampled at depths of 5, 10 and 20 m. Fe(II) in inflowing river waters existed almost solely in a dissolved fraction, in spite of the variation in pollution levels of these rivers. At the Inukami River that receives a massive groundwater supply, Fe(II) at 6 sampling points was measured. The Fe(II)/Fe(III) ratio in water tended to decrease with an increase in pH, indicating that the Fe(II) in groundwater mixed with the oxic river water and slowly oxidized. This finding was supported by an increase in concentrations of chloride ion in river water corresponding with a decrease in the Fe(II)/Fe(III) ratios.

**Key Words:** [Fe\(II\)](#), [oxic environment](#), [inflowing rivers](#), [Lake Biwa](#), [speciation](#)[\[PDF \(513K\)\]](#) [\[References\]](#)Download Meta of Article [\[Help\]](#)[RIS](#)

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