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Phytoplankton species abundance in Lake Kasumigaura (Japan) monitored monthly or biweekly since 1978

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Abstract This data paper reports the abundance of phytoplankton species in monthly or biweekly samples collected from May 1978 through March 2010 at two stations on Lake Kasumigaura, a shallow lake that is the second-largest lake in Japan. The data set of quantitatively over several decades is unique among the available published data papers concerning lakes or plankton and continues to be freely available. The monitoring has been performed as a component of the Lake Kasumigaura Long-term Environmental Monitoring program, conducted by the National Institute for Environmental Studies since 1977. The data set details 173 phytoplankton species (or taxa), which can be identified by using an optical microscope and records their abundance. The abundance of each species is expressed in units of volume (μm^3) per milliliter of lake water. This approach allows quantitative comparisons among taxa because the cell size of phytoplankton varies by several orders of magnitude among taxa. The phytoplankton data include 39 species (taxa) of Cyanophyta, 67 Chlorophyceae (Chlorophyta), 3 Prasinophyceae (Chlorophyta), 1 Raphidophyceae (Heterokontophyta), 6 Euglenophyceae (Euglenozoa), 4 Dinophyceae (Dinophyta), 38 Bacillariophyceae (Heterokontophyta), 6 Chrysophyceae (Heterokontophyta), 7 Xanthophyceae (Heterokontophyta), 1 Cryptophyceae (Cryptophyta) and 1 Prymnesiophyceae (Haptophyta). The data have been used for ecological

and environmental studies and for studies on lake management.

Keywords Lake Kasumigaura · Phytoplankton species (taxa) · Abundance · Biomass · Seasonal change · Water bloom · Eutrophication

Ecological Research Data Paper Archives at http://db.cger.nies.go.jp/JaLTER/ER_DataPapers/
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The complete data set for this abstract published in the Data Paper section of the journal is available in electronic format in *Ecological Research Data Paper Archives* at http://db.cger.nies.go.jp/JaLTER/ER_DataPapers/archives/2012/ERDP-2012-02/.

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