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## Zooplankton abundance in the pelagic region of Lake Kasumigaura (Japan): monthly data since 1980

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**Abstract** Microscopic crustaceans (cladocerans and copepods) and rotifers are the principal zooplankton components of the pelagic food webs in lakes. They play important ecological roles, functioning as essential links between primary producers and planktivorous fish. Individuals zooplankton are important nodes of matter flow in pelagic ecosystems. The zooplankton community structure can provide useful indicators of top-down processes, such as the magnitude or strength of planktivorous predators and the extent of zooplankton grazing. Here we report the abundance of zooplankton taxa (crustaceans and rotifers) that were recorded monthly, from January 1980 to September 2015, at two stations on Lake Kasumigaura, a shallow eutrophic lake that is the second largest lake in Japan. The data include information on 12 copepod species (taxa), 20 cladoceran species (taxa), 40 rotifer species (taxa), and the opossum shrimp (*Neomysis intermedia*). In the 1980s, the plankton of the lake were characterized by cyanobacterial blooms and the co-dominance of *Bosmina* and *Diaphanosoma* in the summer. In addition, the two cladoceran genera, *Daphnia galeata* and *Chydorus sphaericus* were often prominent. The plankton profile changed dramatically in the middle (1997–2004) of the present long-term monitoring period, when cyanobacteria disappeared and diatoms became dominant even in the summer; concurrently, only the *Diaphanosoma* clado-

cerans were evident. However, in the past 10 years, cyanobacterial blooms, the co-dominance of *Bosmina* and *Diaphanosoma*, and *D. galeata* have re-emerged. Zooplankton monitoring forms part of the Lake Kasumigaura Long-Term Environmental Monitoring Program, which has been conducted by the National Institute for Environmental Studies (NIES) since 1977. Data on other planktonic components (phytoplankton and the elements of microbial food webs) noted during monitoring and on primary production were published in Takamura and Nakagawa (Ecol Res 27:839 2012a, Ecol Res 27:837 2012b, Ecol Res 31:287 2016). Lake Kasumigaura is a core site of the Japan Long-term Ecological Research Network, a member of the International Long-term Ecological Research Network. Our quantitative dataset spanning several decades is unique in terms of the work on lakes and the plankton therein, and is freely available. The dataset has been used in ecological and environmental programs, as well as in studies on lake management.

**Keywords** Crustacea · Rotifera · Mysida · Pelagic ecosystem · Zooplankton · Long-term monitoring · Eutrophication · Lake Kasumigaura

*Ecological Research Data Paper Archives* [http://db.cger.nies.go.jp/JaLTER/ER\\_DataPapers/](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/2016/ERDP-2016-06](http://db.cger.nies.go.jp/JaLTER/ER_DataPapers/archives/2016/ERDP-2016-06).

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