

Table. 1 Data set information

Title of data set	Supporting data – Floating Gardens, Chicago River, April 29, 2018 to November 19, 2019
Abstract	Between April 29, 2018 to November 19, 2019, water samples were collected upstream and downstream of a floating garden installed along the Chicago River. At each location, samples were collected at the surface and at 0.3 m below the surface. In-situ measurements of Dissolved Oxygen, Specific Conductance, and Temperature were recorded with a YSI 85. Anion samples were analyzed using a Ion Chromatograph for fluoride (F ⁻), chloride (Cl ⁻), nitrate as nitrogen (NO ₃ -N), phosphate (PO ₄ ⁻³), and sulfate (SO ₄ ⁻²). The available dataset provides the recorded field parameters and the analyzed ion concentrations.
Keywords	Floating garden, Nitrate, Chloride, Plant Uptake
Lead author for the dataset	Eric W. Peterson
Title and position of lead author	University Professor
Organization and address of lead author	Department of Geography, Geology, and the Environment, Campus Box 4400, Illinois State University, Normal, IL 61761
email address of lead author	ewpeter@ilstu.edu
Organization associated with the data	Illinois State University, Urban Rivers (Chicago, IL)
Usage Rights	Publicly available and free to use
Geographic region	Chicago River, Chicago, IL (41.90850°N, -87.65325°W)
Geographic coverage	Coverage of the data set includes water samples collected upstream and downstream of the floating garden. At both locations, water samples were collected at the surface and a depth of 0.3 m.
Temporal coverage -begin date	April 29, 2018
Temporal coverage - end date	November 19, 2019
General study design	The work was a pilot study investigating the potential of floating gardens to improve the water quality of an urban stream, the Chicago River. Water samples were collected upstream and downstream from the floating garden. A horizontal sampler was used to collect samples from the surface and from a 0.3 m depth, which aligned with the root zone of the plants. In-situ measurements of dissolved oxygen (DO), specific conductance, and temperature were acquired with a YSI85. Major anions were analyzed on an ion chromatograph. Paired t-tests were used to assess the effectiveness of the floating garden as treatment.

Methods description	The floating garden was installed along the edge of the Chicago River. Water samples were collected upstream and downstream of the floating garden from the surface and at the depth of 0.3 m. The samples were frozen upon collection until analysis. The sampled waters were filtered and analyzed for anions using a DIONEX ICS-1100 ion chromatography following US EPA method 300.1 (Hautman and Munch, 1997). Quality 138 Assurance (QA) and quality control (QC) were maintained during the analysis.
Laboratory, field, or other analytical methods	Statistical analysis was carried out by running a paired t-test ($\alpha = 0.05$) to identify the statistical differences between the NO_3^- -N among the treatments.
Quality control	Data quality was assessed using a series of sample blanks, sample duplicates, calibration verifications, and matrix spikes during each analytical run.
Additional information	References: Hautman, D.P.; Munch, D.J.J.E.O. Method 300.1: Determination of inorganic anions in drinking water 567 by ion chromatography. 1997 .

Table 2. Description of data set variables.

Dataset filename: 2018-2019_supporting_chemical_and_field_data_floating_gardens.csv

Dataset description: Field and chemical data for waters collected at the surface and at a 0.3 depth upstream and downstream from a floating garden in the Chicago River; waters were collected from April 2018 to November 2019 in the Chicago River. BDL indicates below detection limit.

Column name	Description	Units
Date	Date the sampled was collected	
Location	Location: US S – Upstream-surface; DS S – Downstream-surface; US_0.3M – Upstream 0.3 meter depth; DS_0.3M – Downstream 0.3 meter depth	
Season	Designates Growing or Nongrowing season	
DO_mg_L-1	Dissolved Oxygen concentration	mg/L
SpC_microS_cm-1	Specific conductance	$\mu\text{S}/\text{cm}$
T_oC	Water temperature	$^{\circ}\text{C}$
F_mg_L-1	Concentration of fluoride	mg/L
Cl_mg_L-1	Concentration of chloride	mg/L
NO3-N_mg_L-1	Concentration of nitrate as nitrogen	mg/L
PO4_mg_L-1	Concentration of phosphate	mg/L
SO4_mg_L-1	Concentration of sulfate	mg/L