



Plastic Spotter: citizen scientists collect, study and showcase macroplastics from the canals of Leiden, the Netherlands

Auke-Florian Hiemstra^{1*}, Liselotte Rambonnet^{2,3,*} and 400 citizen scientists[±]
[±] De Grachtwacht, Leiden, The Netherlands, ^{*}Naturalis Biodiversity Center, Leiden, The Netherlands
[~]Institute of Biology, Leiden University, Leiden, The Netherlands

Plastic Spotter

Volunteers from the citizen science project Plastic Spotter study **floating litter** in the canals of Leiden, the Netherlands. With the gained knowledge and by tracing back the source, we can **improve cleanup efforts** and ultimately even **prevent litter** ending up in the water in the first place. Hereby, we can limit the amount of riverine litter of an inland city like Leiden and its contribution to the plastic soup.



Some of our 400 volunteers!



The categories of litter after a clean-up

Volunteer involvement

- Initiated, crowdfunded and co-created by the public
- Involved in **all research phases**:
 - Research questions
 - Data collection
 - Analysis
 - Reporting
- **Acknowledged** in research articles
- Can become co-author of publications
- Updated through newsletters
- Sometimes grow towards **ambassador-role** and help with organization

Research

- Covid litter
- Terrace litter
- Single use cups
- Animal peck marks
- Hotspots and flow of litter
- Fishing gear & entanglements
- And much more...



A fish entrapped in a medical glove

The effects of COVID-19 litter on animal life

Auke-Florian Hiemstra^{1,2,3,4,**}, Liselotte Rambonnet^{2,3,**}, Barbara Gravendeel^{1,4} and Menno Schilthuizen^{1,2}



Our headquarter / exhibition space

Outreach

- Exhibition space / field lab: **De Grachtwacht** (Canal Watch)
- Located in bridge house above canal
- Showcase extraordinary clean-up finds
- Raise awareness on plastic pollution
- Window exhibition educating people passing by
- Local examples of impact on nature, e.g.:
 - Fish entrapped in medical glove
 - Fish entangled in market litter
- **Showing impact both local and global** featured in The Guardian, CNN, National Geographic and many more platforms.

Read our published work:

Tasseron, P., et. al (2020). Plastic hotspot mapping in urban water systems. *Geosciences*, 10(9), 342.
Hiemstra, A. F., et. al (2021). The effects of COVID-19 litter on animal life. *Animal Biology*, 71(2), 215-231.

