

Plastic Pollution In the River Thames



Plastic pollution is one of the biggest threats facing our rivers, as well as our oceans.

Photo © Bill Green

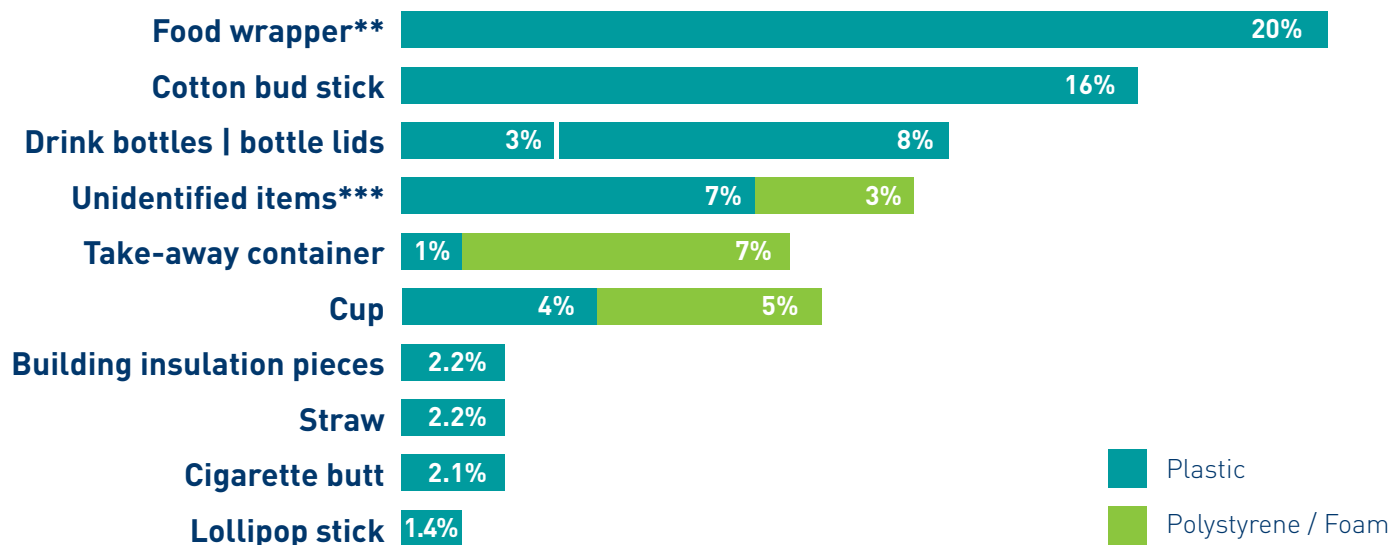
Thames21 has witnessed a recent shift in the type of waste items we find on the Thames: while concerted volunteering efforts have removed large immobile and industrial items, the number of plastic consumer items has increased.

Yet there is no statutory monitoring of the plastic impact on London's largest blue-green space. Our Thames River Watch citizen science programme fills that gap and this report summarises our current understanding of the issue, based on the data collected by volunteer citizen scientists.

Key findings

- Wet wipe products are the most common plastic item found in our surveys, changing the shape and sediment type of the riverbed. One wet wipe mound in Barnes has grown **1.4m** in height since 2014, half of this in the past year. It now covers a **1000m²** area (= 4 tennis courts).
- The top **five** lightweight plastic items make up **64%** of total plastic waste surveyed. Food wrappers are the most common item, followed by cotton bud sticks, drink bottles and their lids.
- Between April 2016 and October 2019 we recorded and removed more than **85,000** single-use plastic bottles from the Thames. Water bottles make up nearly **50%** of all bottles found.
- More than **75%** of sites surveyed contain microplastic and mesoplastic items (less than 2.5cm). These items are too numerous to count and difficult to remove.
- Thames21 rapid appraisal surveys show a large decrease in large immobile items such as tyres, embedded plastic bags, and shopping trolleys over the past decade.

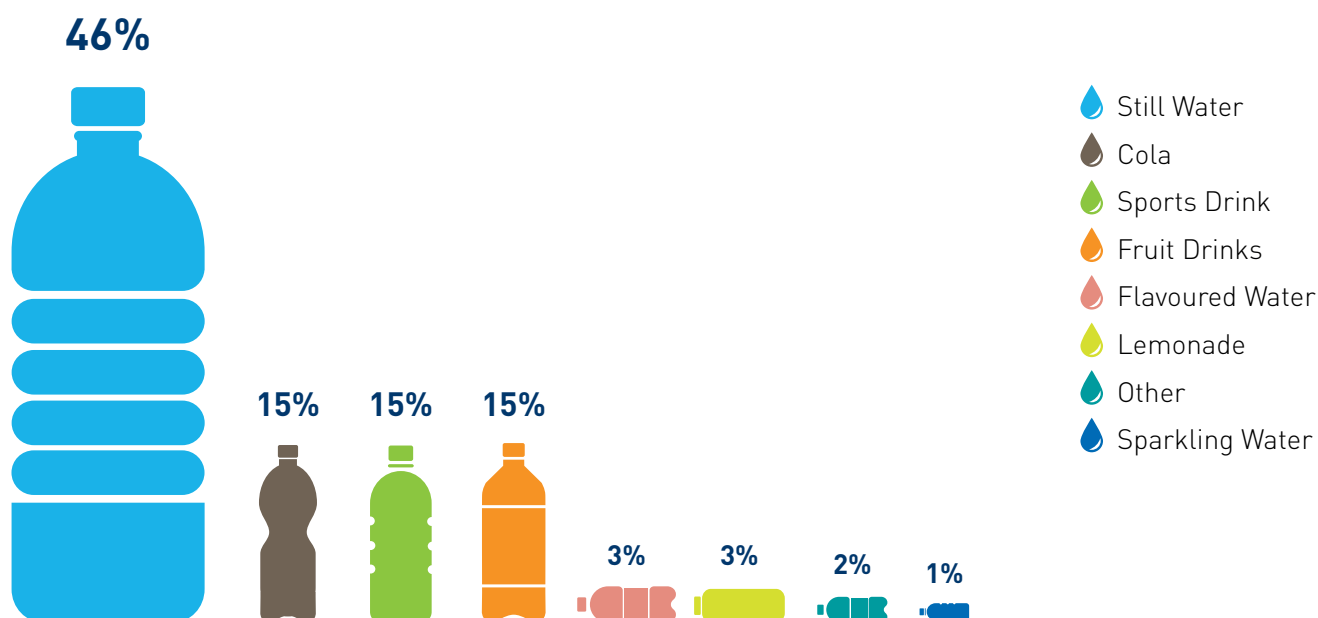
The top five lightweight plastic items: account for 64% of all plastic waste found* Jan 2015 - Dec 2018



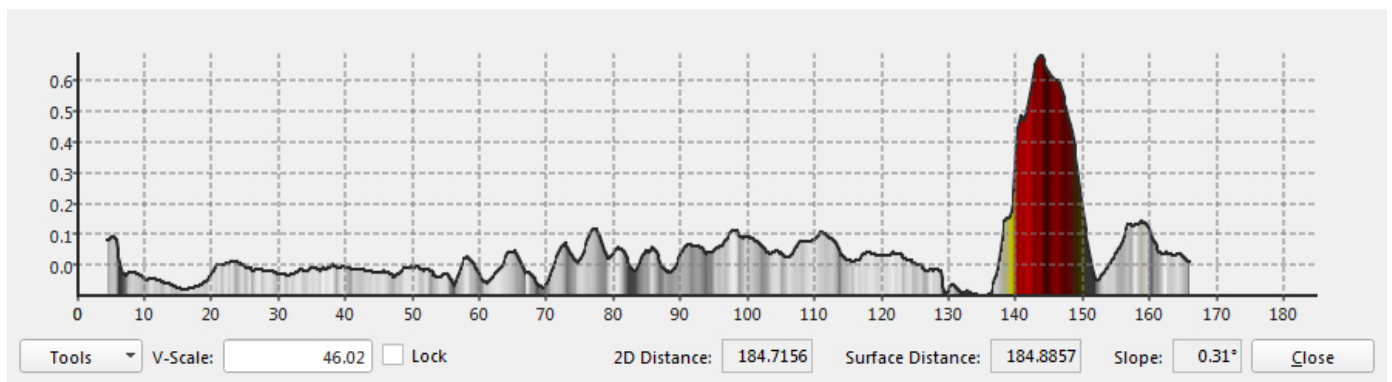
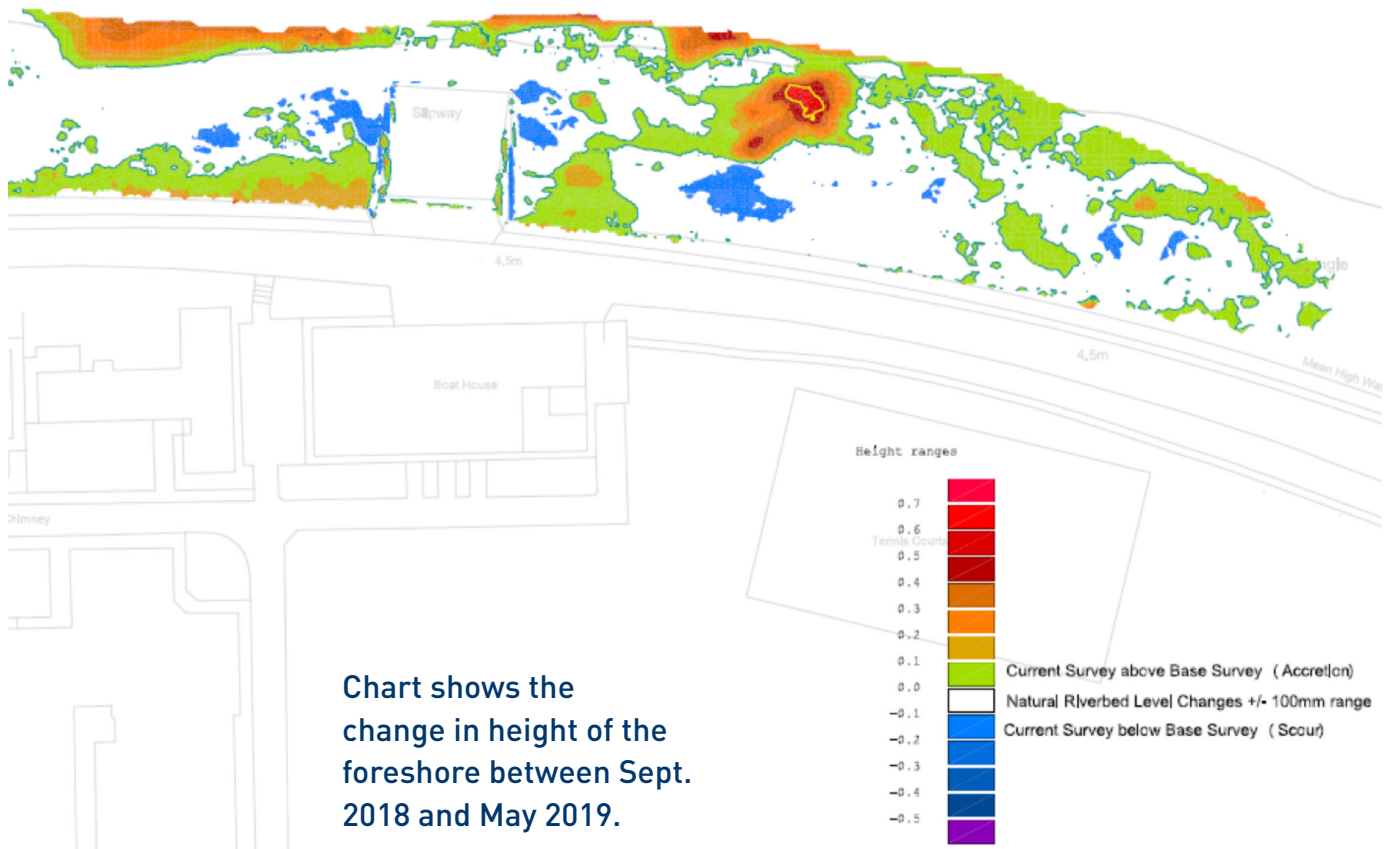
* Wet wipes are not included on this graph as they are found in different 'sinking litter' sites
 ** Food wrappers almost exclusively polypropylene packaging of chocolates and biscuits
 *** Excludes plastics less than 2.5cm and unidentified polystyrene, which are too numerous to count.

Water bottles are the most common type of plastic bottle found: almost 50% of all bottles

Water bottles are far more common than any other type of drink bottle found



Wet wipes products are changing the shape of the foreshore in Barnes: one mound grew in height by 0.7m in just 8 months



Key findings

- A total of 45 clean-ups at wet wipe sites were carried out in 2019. Four of these events, in which each wet wipe was counted, yielded a total of **56,000 wet wipe products**
- Counting only the top 4cm of mounds, we typically find between **100-200 wet wipe products per m²**
- The foreshore sediment type is visibly changing, potentially reducing the availability of wildlife habitat

Tackling plastic waste

Each plastic product takes the following pathway on its way to the river; early interventions have the most impact



1. REGULATION

Government sets the legislative framework for the life of the plastic product



2. MANUFACTURE

Manufacturers design and make the product to contain (or be packaged by) plastic



3. MARKETING

Product is promoted to increase sales



4. RETAIL

*Retailers sell the product
Individuals decide to buy the product*



5. DISPOSAL

Individuals & companies discard it in such a way that it escapes to the environment



Our top recommendations

- Set legally binding waste reduction targets to phase out unnecessary waste items ⁽¹⁾
- Clearly label all wet wipe and sanitary items which contain plastic ⁽¹⁾
- Introduce an 'all-in' Deposit Return Scheme ⁽¹⁾
- Innovate to reduce food wrapper packaging and make more of it recyclable ⁽²⁾
- Give councils sufficient funding to collect street refuse and enforce existing laws ^(1, 5)
- Fund a London-wide campaign to highlight the link between street litter, drains and our rivers ⁽³⁾
- London businesses join #OneLess campaign to reduce plastic bottle use

This report could not have happened without the support of:



North Thames Estuary
LITTER PICKING GROUP

Wet wipes and lightweight plastic are impacting the river in two key areas



INTERTIDAL HABITATS:
Precious intertidal habitats outside London bear the brunt of **lightweight plastic, such as bottles**. These key saltmarsh and reedbed habitats are already suffering from other pressures and are key nursery grounds for fish.

2,099

This is an underestimate as litter is cleaned in summer by council but not counted

27,971

Wet wipe products are changing the shape and sediment type of the riverbed in west London, mainly inside bends of the rivers where water moves more slowly. This is a recent change, first observed in 2013.



All bottles are from Essex, except 7,552 from Erith Marshes and Thamesmead. Bottles from rest of Kent not yet included.