

Fairfax County 2024 MS4 Program Plan and Annual Report

Appendix R16

A Summary of the Monitoring Results and Analyses from the Floatables
Monitoring

VSMP Permit Number VA0088587
9-30-2024

Monitoring protocol summary and List of Sites sampled

Floatables monitoring was conducted at five (5) monitoring sites located at MS4 outfalls. Sites were chosen to be representative of the primary land cover classes that occur in the MS4 service area: High, Medium, and Low Density Residential, Commercial, and Institutional. The StormNet IDs and land cover classifications for the floatable monitoring sites are:

1. STMN0212404236 - 83% Low Density Residential (LDR)
2. STMN0293016090 - 93% Commercial (COMM)
3. STMN0583435398 - 89% Institutional (INST)
4. STMN0651048577 - 100% Medium Density Residential (MDR)
5. STMN0791456509 - 87% High Density Residential (HDR)

Monitoring is conducted once per quarter. During monitoring events, staff count the number of floatables visually observed within the bank full area for 100 linear feet below the MS4 outfall. Staff remove all litter all from sites immediately after floatable counts are recorded in order to prevent the potential to double-count floatables.

Summary of Monitoring Results

In FY2024 the Medium Density Residential (MDR) site had 67.25% of the annual total floatables. In contrast, the Low Density Residential (LDR) site contributed a fraction of a percentage to the annual total (approximately 0.7%). The discrepancy between the LDR and MDR outliers continues to grow year-to-year, while the remaining sites (HDR, COMM, INST) are more comparable in both floatables volume and composition.

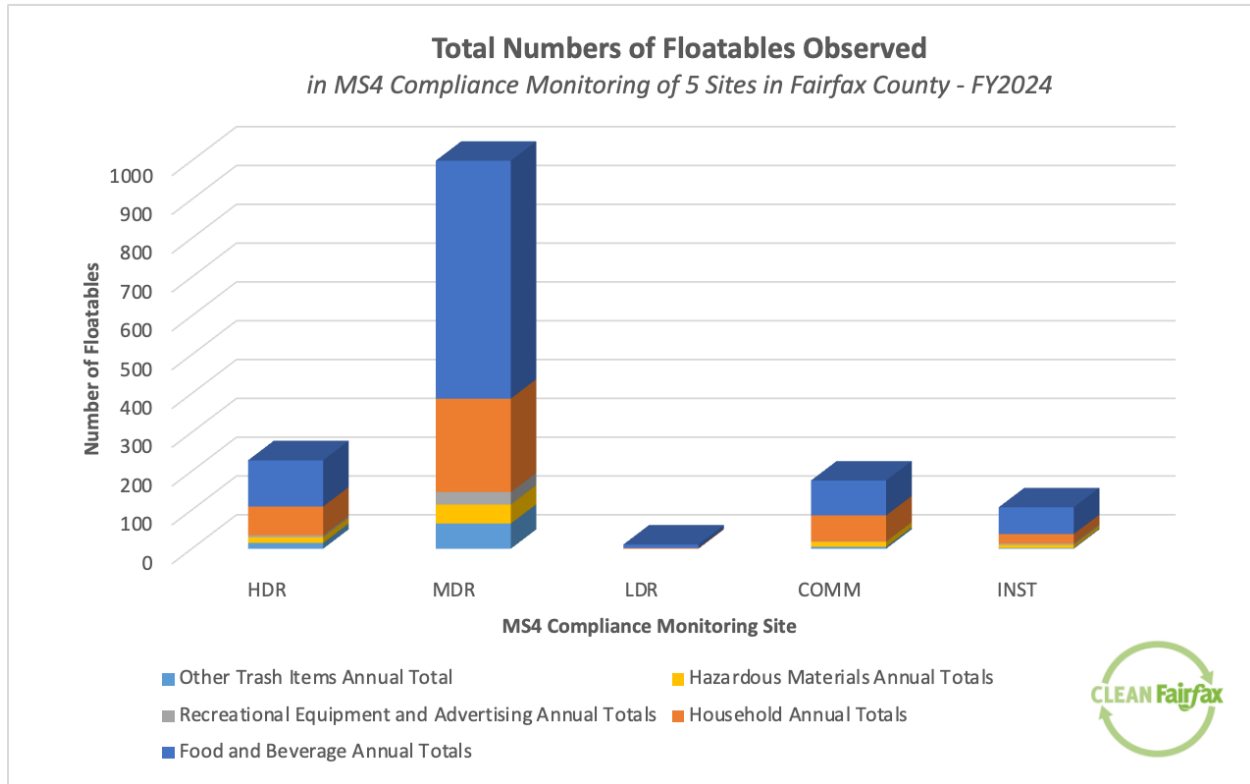
Food and beverage containers were the dominant material observed in monitoring, regardless of seasonality, land-use, and population density of the site. Specifically, the top items collected in FY2024 included: food packaging wrappers, single-use plastic bags, disposable cups/lids/containers/utensils (plastic, paper, and EPS foam), and beverage bottles & containers. A detailed breakdown of collected materials for this category for FY24 is provided at the bottom of this appendix document. Household Items were the next highest category, followed by Hazardous Materials (primarily: face masks, latex gloves, and similar medical waste).

Single-use (plastic) food and beverage items were especially problematic at MDR, where the Clean Fairfax staff conducted thorough cleanups (averaging about 2 hours) each quarter post-monitoring. Unsecured bags of trash (without lidded bins) left curbside near storm drains have been identified as a source of floatables in the MDR sewershed. Loose items may be carried by weather events into the MS4 directly or the nearby environment, potentially introducing floatables to the monitoring area. Additional resources and continued community outreach is needed to reduce the potential for floatables to enter the MS4.

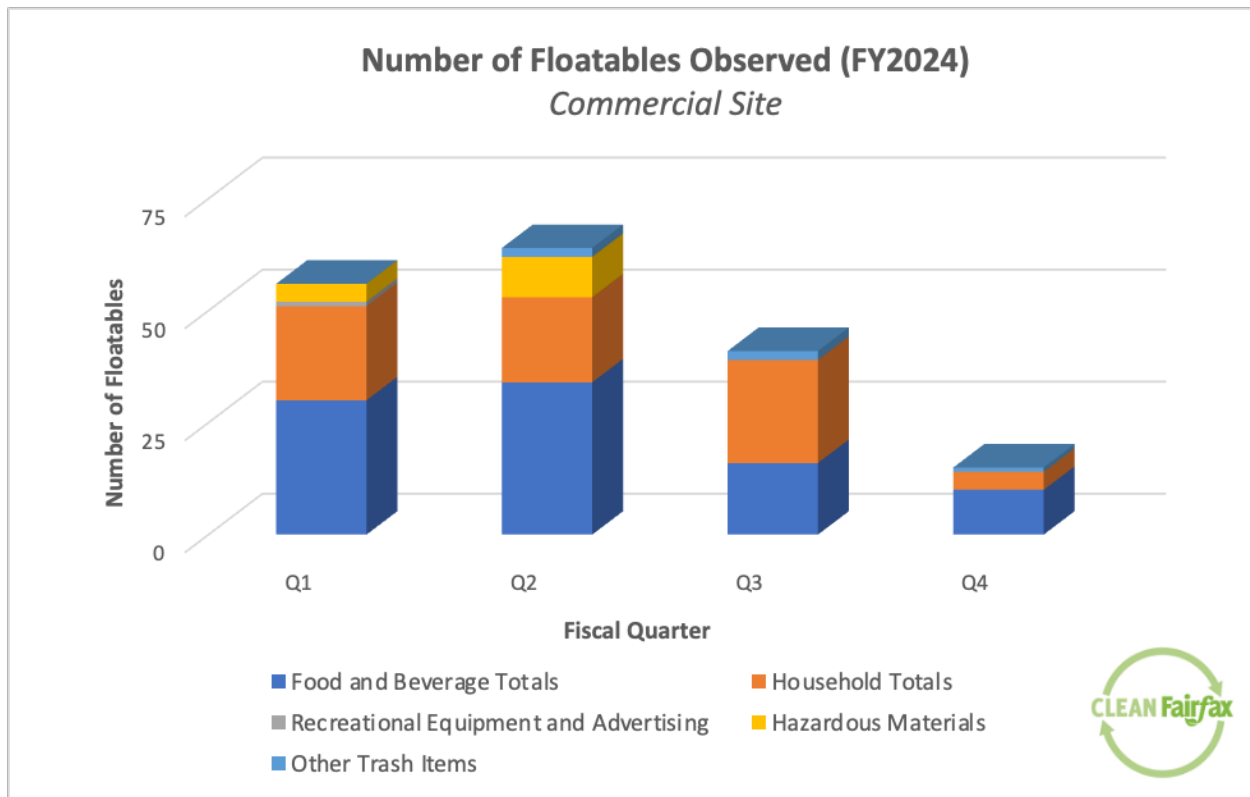
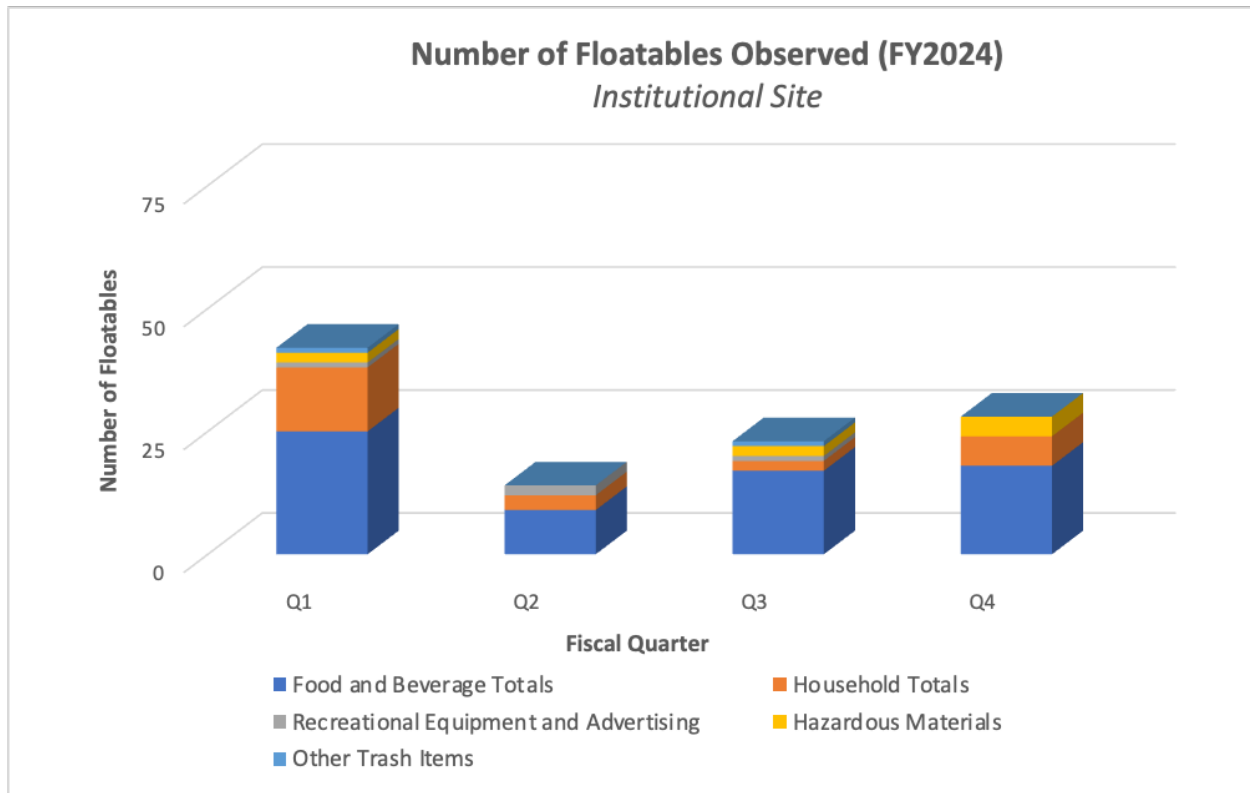
Additionally, significant utilities and construction projects are set to begin in FY25 around the commercial monitoring site in Tysons. These projects are all upstream of the monitoring site and may affect floatables data in several indirect ways (such as reducing stream flow, impacting MS4 storm drains and outfalls, reducing foot traffic through the area, etc.). Clean Fairfax and DPWES-SWPD staff are

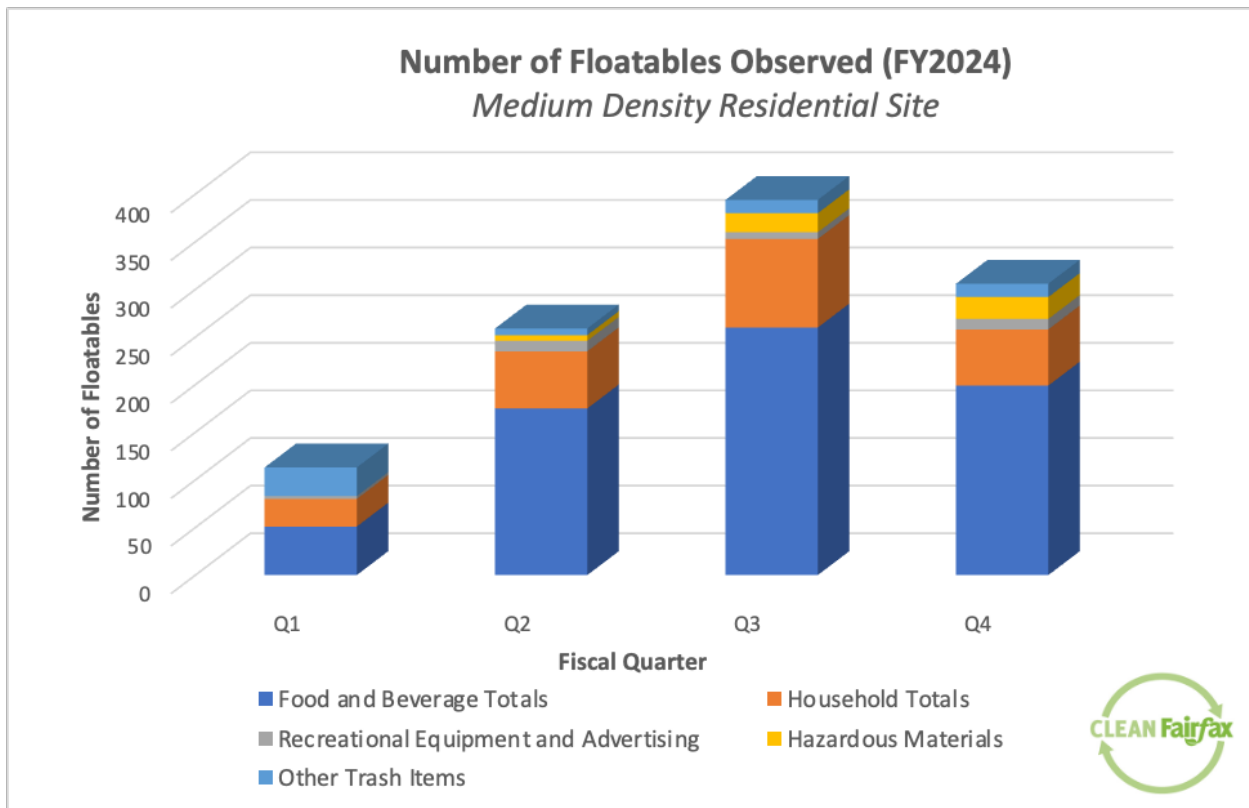
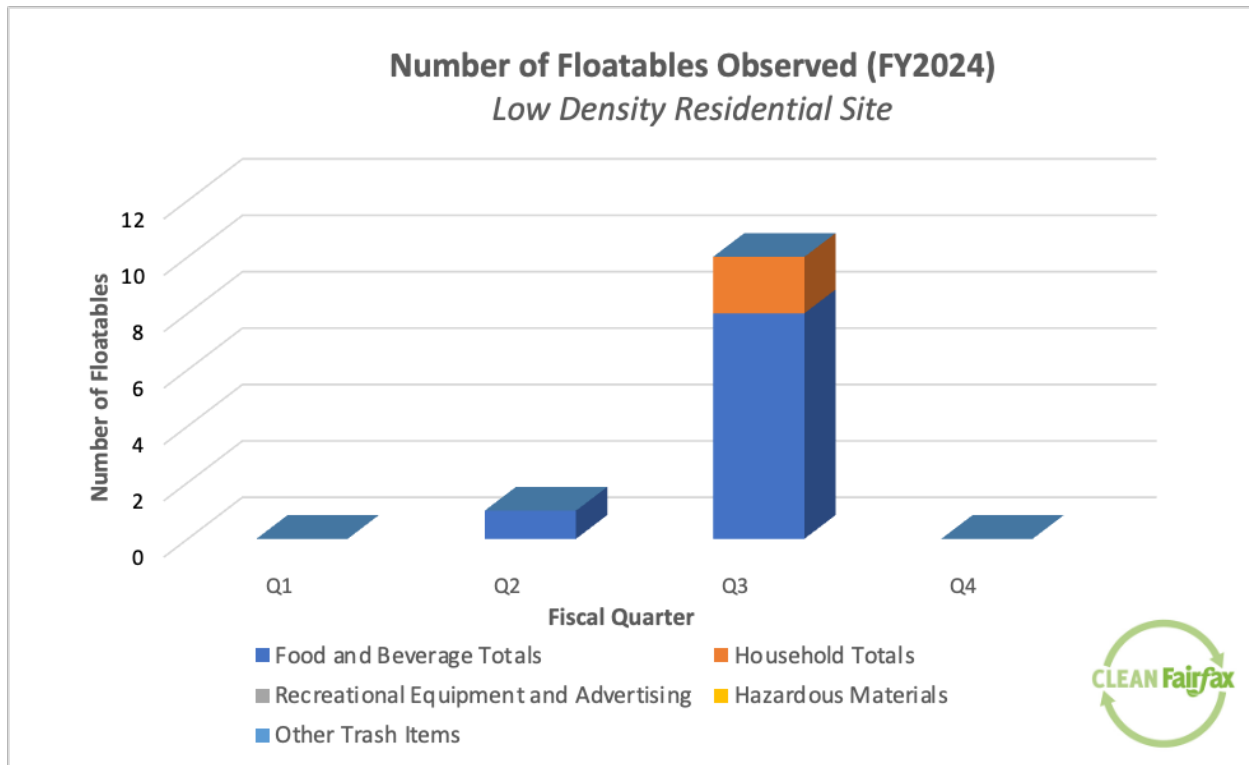
exploring alternative sites that may supplement floatables data during this work. Finally, a large community cleanup held for Earth Month greatly reduced the total floatables observed at this site in Q4.

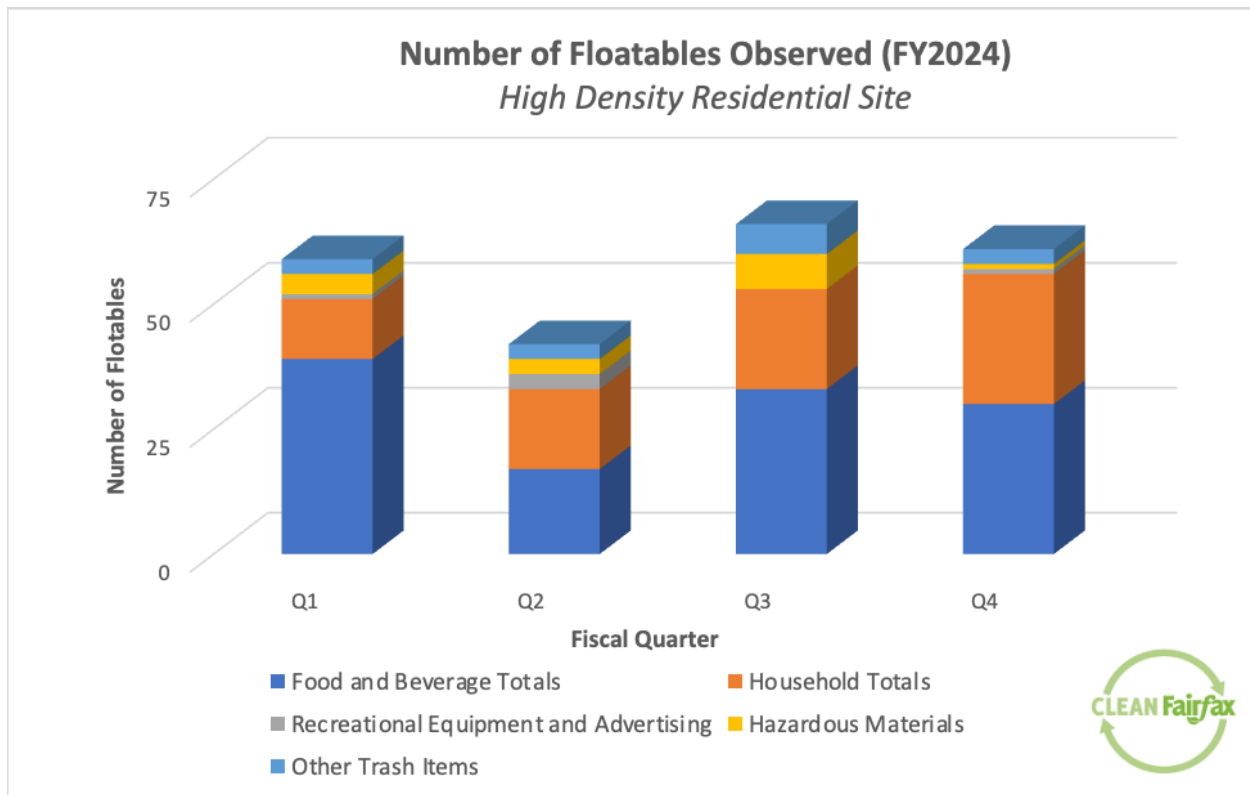
Total Annual Floatables Data Table



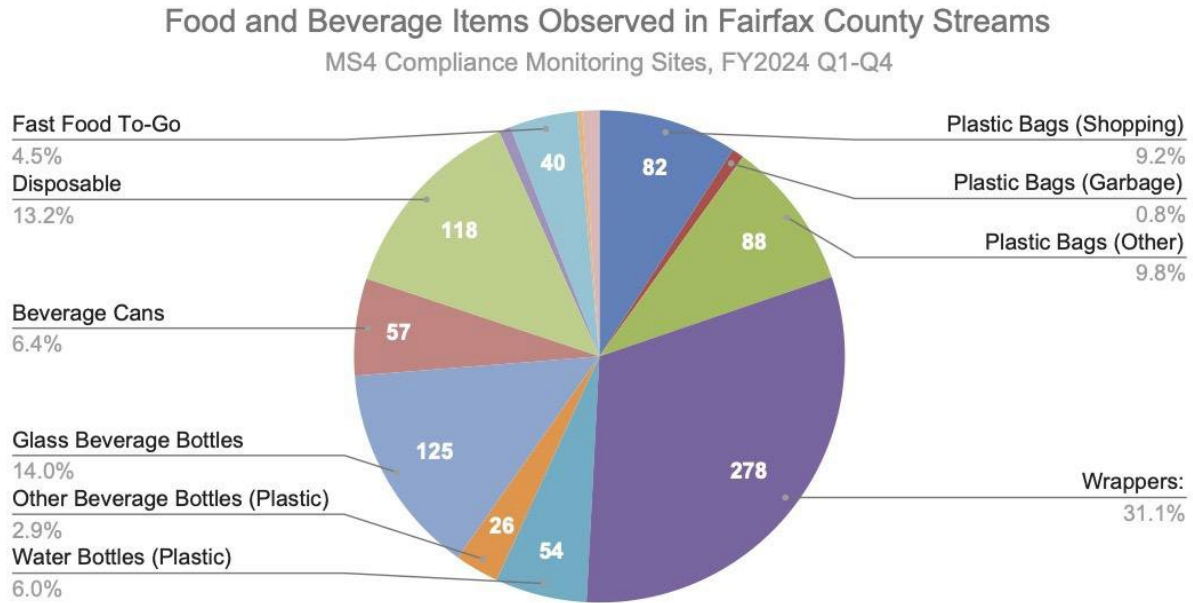
Site-Specific Floatables Data Tables







Material Breakdown



Total Food and Beverage items observed in FY2024: 917.