Candice S. Miller
Public Works Commissioner
Macomb County

June 1, 2023

Dear Rep. Denise Mentzer

Thank you for introducing HB 4595 to the Michigan Legislature which would require "Do Not Flush" labeling on disposable wipes. This legislation is vitally important to the nation's underground infrastructure.

The bill addresses the growing and expensive problems of these wipes being flushed into sewers which create obstructions and damage pipes not only for residential property owners, but also wastewater pump stations.

Wipes are wreaking havoc on our wastewater infrastructure in various cities across the country. Deep before the surface at wastewater pumping stations, wipes can slip through metal bars screens that remove much of – but not all – of the debris that flows into those stations. Wipes then get into the pumps, slowing their efficiency, damaging mechanical equipment and increasing the risk of sewage backups into basements. Flushed wipes also have led to an increase in plastic micro-fibers from the wipes making their way through the wastewater system and back into the environment.

The use of so-called "disposable" wipes has proliferated, especially during the pandemic. Consumers do not know that many of these products do not rapidly break down or decompose. In early 2018, approximately 70 tons of debris that had accumulated over a period of three years was removed from the Northeast Sewage Pumping Station in Detroit, which conveys the sanitary sewage from a total of 23 communities from Macomb and Oakland counties. Three years later, a crew that recently completed a cleaning removed approximately 270 tons of debris. That work took more than a month-and-half at a cost of approximately $450,000!

From spring 2018 to spring 2020, the Macomb County Public Works Office spent approximately $100,000 to remove two large masses of wipes from the sewer system. In 2018, a 19-ton mass of wipes and accumulated grease that attached to the sewer system was removed. The gloppy mass was dubbed the Macomb County "Fatberg" and was displayed at the Michigan Science Center in Detroit. In 2019, workers removed a 1-ton mass of wipes that became known as the "Ragball." It was composed of thousands of wipes that became knotted together in a different section of sewer.

Thank you for your consideration.

Sincerely,

Candice S. Miller

Candice S. Miller
Macomb County Public Works Commissioner

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"Don't feed the fatberg!": an assessment of "flushable" consumer products and fats, oils, and greases accumulation in sewer systems

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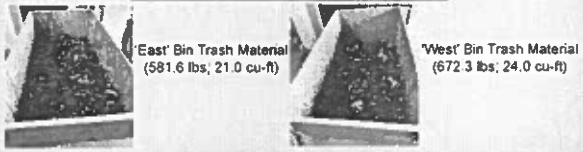
INTRODUCTION

- Early September 2018, Macomb County's Public Works Office unveiled "a collection of fats, oils, and grease (FOG) mixed with solid items like paper towels and deemed it a 'fatberg'." The 100-foot long sewer monster cost about $100,000 to dispose of.
- The UK spends $5.7 million every years on FOG removals.
- When blockages do occur, the raw sewer water overflows into drainage pipes releasing into nearby rivers and lakes.
- The real-time composition and development of FOG blockages is a rising area of research study.
- **Few project studies have monitored the actual breakdown of the components contributing to the sewer collection while analyzing continuous data of the blockage source.**
- **This project study carries a two-fold purpose: 1) quantify the particle fractions in the breakdown of 'flushable' wipes and 2) identify and measure the influences on the current amount of trash material in the sewer line.**

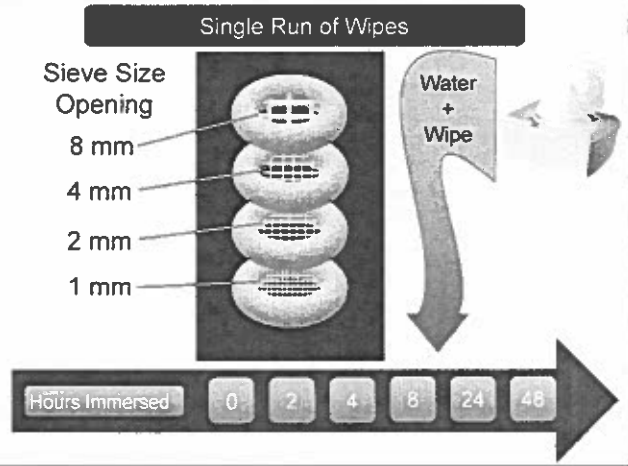
Sample Filtered Trash Material Images



Disposal of 'Flushable' Wipes

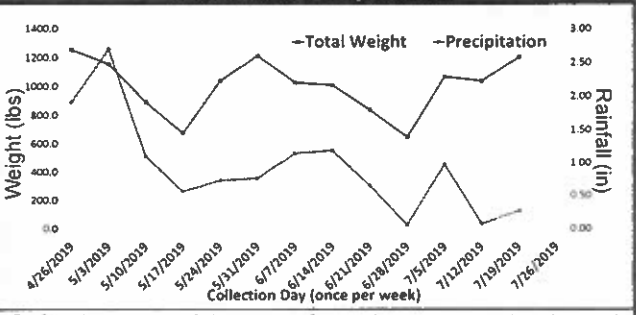
- With the rise in 'flushable' consumer products, there has been a notable concern for the actual biodegradation of the wipes that are being accumulated in the our sewer lines.
- Although marketed as flushable, they can accumulate in sewer systems and contribute to FOG formation.

METHODS



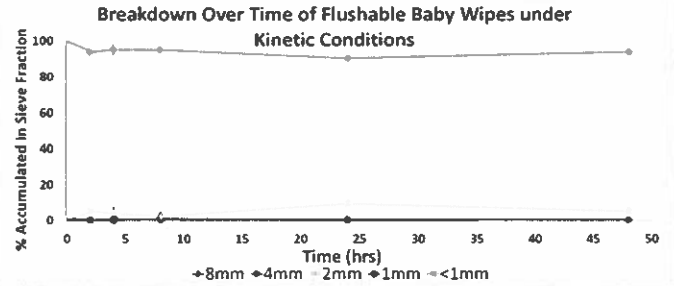
- Wipes were immersed in 500 mL of kinetic or static water for: 0, 2, 4, 8, 24, and 48 hours.
- For the corresponding hour, wipes were poured thru a stack of sieves (smallest on bottom) with 1, 2, 4, and 8 mm-wide openings. The material caught in the sieves was separated by level into pre-weighted, aluminum pans.
- Post-collection, pans were placed in a hood for an initial evaporation of excess water, and later stored in the oven at 60 °C until dry.
- Once dry, pans were post-weighted for particle fraction calculation.
- 'Zero'-hours (fresh) wipes were placed directly into the oven and their weights averaged to estimate the average dry wipe weight

Analysis of Weekly Reported Data from the Clintondale Pump Station

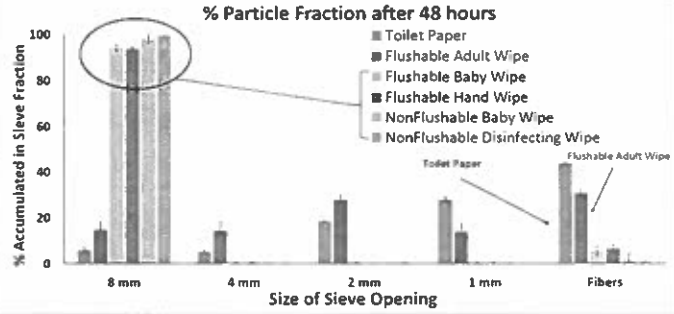


During the course of the late spring and summer months, the total weight filtered out of the Clintondale Pump Station nearly parallels the weekly weather events.

RESULTS



Fraction breakdown trend of most tested wipes over 48 hours of kinetic motion in tap water. Four of the six different samples maintained being at least 93% intact with their original form throughout the 48-hour time period.



Complete fraction breakdown of wipes following 48 hours of kinetic motion in tap water. Most wipes were at least 93% intact with their original form. 35% of one flushable adult wipe broke down into fibers.

CONCLUSIONS AND FUTURE DIRECTIONS

- Time does not substantially contribute to the effectiveness of a wipe breakdown. Without effective breakdown, wipes are bound to accumulate and clog wastewater sewer lines as solid waste.
- Toilet paper and one wipe (out of 6) breakdown substantially. These other 5 wipes will clog when flushed and potentially contribute to FOG formation despite being labelled "flushable."
- Rainfall influences the amount of trash material collected at the Clintondale Pump Station. The flushing periods of rainfall seem to play a critical role in freeing loose material in the sewer lines.
- Future directions will utilize sewage sludge in the experiments instead of tap water to give a more accurate reflection of a sewer systems' response

ACKNOWLEDGEMENTS

Funding was provided by the NSF EAGER Grant (1903329) [to CJM, TRB, AP and MG]. Additional funding was provided by the NSF NRT: Transformative Research in Urban Sustainability Training (T-RUST); Grant No. 1735038) [to CJM], Healthy Urban Waters (HUW) [to CJM], and WSU Center for Urban Responses to Environmental Stressors [P30 ES020957 to TRB].

DON'T feed the FATBERG

What is Fatberg?

The Macomb County Fatberg is a large build-up of Fats, Oils and Grease, known in the sewer business as "FOG," that accumulated in the Lakeshore Interceptor, a large sewer line in Clinton Township. As the Fatberg grew, other items become lodged in it, such as diaper wipes, sanitary products and related items. Remember, only waste water and toilet paper should enter the sewer.

What causes a Fatberg?

Some of the common items that can cause a fatberg are meat fats, lard, grease, cooking oil, sauces, butter, margarine, liquid from a slow cooker and food scraps.

How big is Fatberg?

The Macomb County Fatberg was about 100 feet long, 10 feet wide and as much as 6 feet tall when it was discovered and broken up. It weighed about 19 tons.

How was Fatberg removed?

Much of the fatberg had to be cut apart as it had become completely solid. Other parts were broken off using high-pressure water jets. It was a dirty and dangerous job.

How did Fatberg cause a problem?

As it grew, it increasingly impeded water flow in the sewer line. Left unchecked, this would have caused a clog that could have caused sewage to back up in to hundreds, maybe even thousands of home. These same types of clogs — smaller Fatbergs — can also happen in smaller municipal sewer lines or in residential lines. Obviously, the Fatberg had to be removed before these back-ups could occur. Removing the Macomb County Fatberg cost about $100,000 — money that could be much better spent working on other projects or on reducing our overall budget and passing those savings on to rate payers.

What steps can I take at home to protect my pipes and prevent another Fatberg?

For residential buildings such as single family homes or condominiums, the prevention of fat, oil and grease buildup typically lies with each individual. Some best practices to avoid the gross and costly results of FOG buildup include the following:

- Wipe greasy cooking utensils with a paper towel before washing. A large amount of FOG buildup comes from washing greasy dishes.
- Minimal use of garbage disposals will help reduce blockages in your kitchen sinks from food particles combining with grease in the pipe.
- Carefully pour the used cooking oil and grease into its original container or another sealable container and throw it in the trash when cool.

What do I do if I have a mini-Fatberg in my home?

Once a fatberg forms in your home pipes, it is very difficult to eliminate and often requires a professional sewer cleaning company. Periodically pouring boiling water down drains can help loosen build up and flush out drain pipes.

What about chemical drain cleaners?

Chemical drain cleaners should be used very sparingly. They can cause two problems: 1) repeated and frequent use of these highly corrosive products can greatly accelerate the corrosion and failure of your home pipes, and 2) these chemicals are generally not removed in the waste water treatment process, meaning the chemicals ultimately end up in our Great Lakes, a very unwelcome addition to our waterways.

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