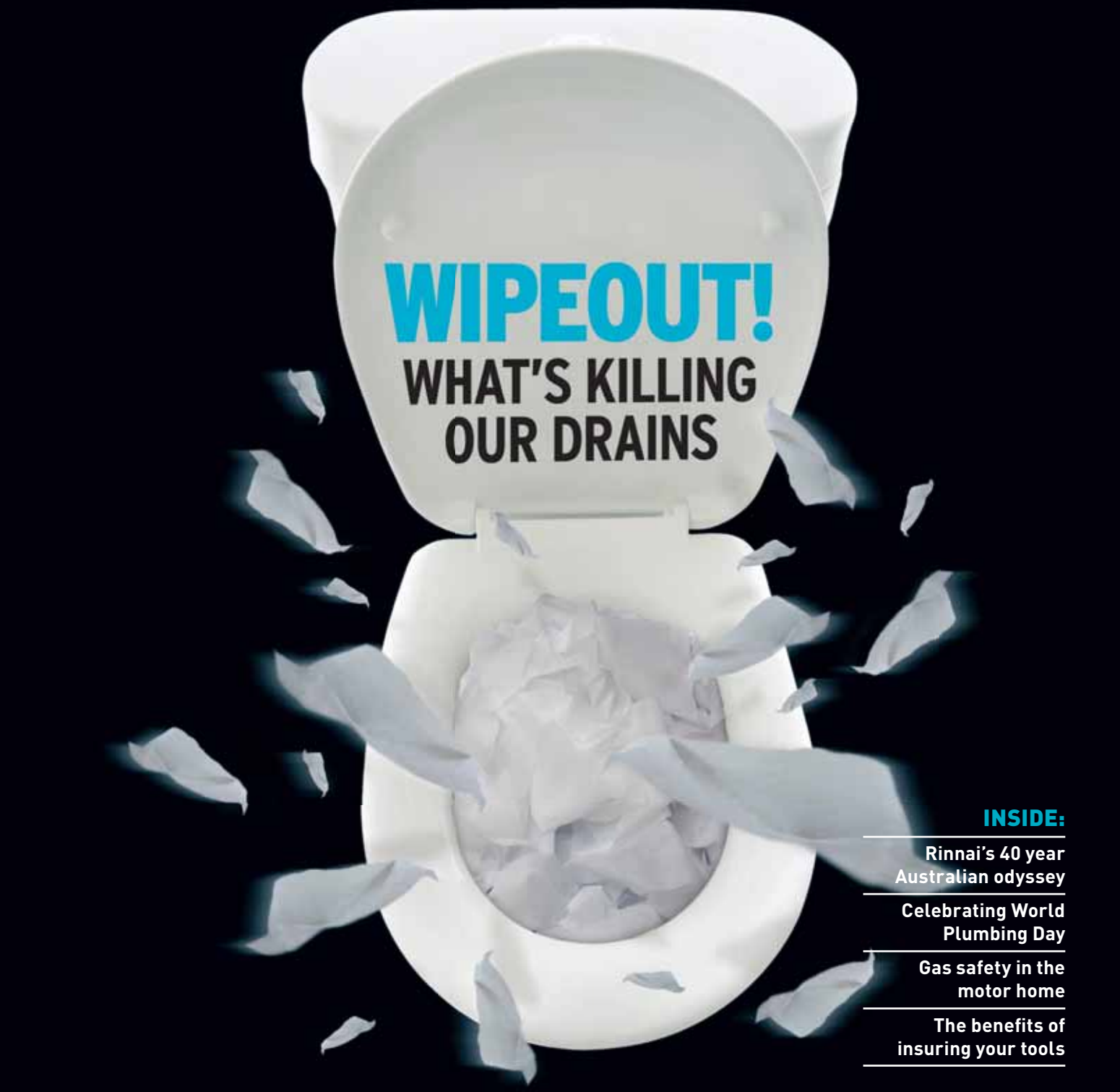
PLUMBING CONNECTION

WINTER QUARTER JUNE 2012

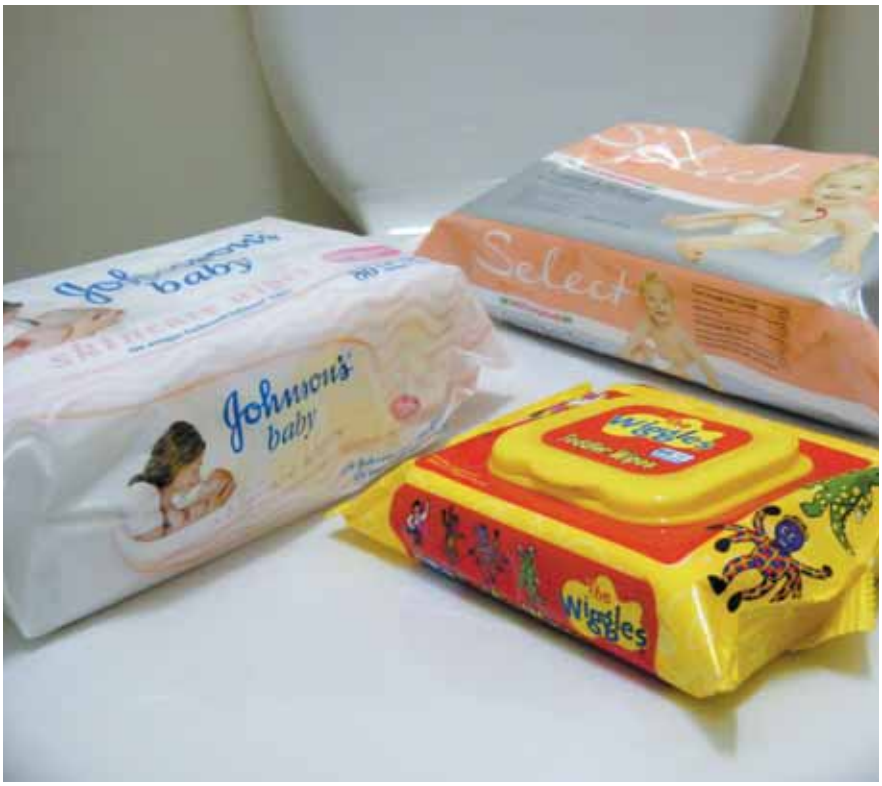


WIPEOUT!
WHAT'S KILLING OUR DRAINS

INSIDE:

What's choking our sewer lines?

Wipes may be a great cleaning cloth, but flushable wipes could cause more mess than you originally contended with. *Plumbing Connection* publisher Jeff Patchell finds out just how devastating flushable wipes can be on the sewerage system.



Wipes seem to be clogging up the drainlines and wasting customers' money in maintenance bills. Wipes have now been banned in some US States.

In the big scheme of things, our infrastructure, particularly pipes hidden underground or within building cavities isn't all that exciting. Few of us lay awake at night with pipe problems on our mind.

Typically, due to this lack of recognition, the public and Governments are reactive to plumbing issues. We fix problems after they happen rather than preventing failure with scheduled maintenance.

From a plumbing performance point of view, maybe it's time this industry (water services/plumbing/building owners) took a serious view of its assets and looks at possible problematic scenarios.

That's why we devoted the cover of this issue to the growing potential of sewer chokes.

What got our attention?

We have run many stories over the past five years about the waste drainage behaviour of our pipe systems (due to ever decreasing amounts of water flow). The 'dry-drains' phenomenon has also taken up industry time. During this time we have learnt a lot, however we have ignored other pressing problems.

A couple of years ago we ran a story on drainage blocks. The story highlighted a new consumer product category called 'flushable wipes' that today appear to be running off the shelves of local supermarkets, hardware stores and chemists.

Originally they were marketed as baby wipes and could often conveniently be disposed of with a disposable nappy as 'clean-up' and placed in the rubbish bin.

However, from there we have seen an expanded use of 'flushable wipes', as once these types of products are in people's hands they tend to find a raft of other uses for them. And that's nirvana for marketers.

Recently we noticed an alarming marketing exercise aimed at significantly broadening the use of flushable wipes by replacing (or at least providing an alternative) dry toilet paper, with wipes in public bathrooms. This encourages bad consumer behaviour.

At this point we should stop calling these products 'flushable wipes' as there is no science behind calling them 'flushable' – it's merely a term a vendor started in the US and it has taken on a life of its own since.

Wipes do not break down in the waste system like toilet paper; they also contain plenty of nasty chemicals that add to contamination.

The US experience

We recently made contact with a District Water Board at Portland in the State of Maine. They have been dealing with this issue for some years and are taking action to address the issue.

Michelle Clements, a spokesperson for the Portland Board told us "We are working with our state (Maine WWCA) and national associations (Water Environment Federation) on this issue and are currently working directly with

their association (INDA) on developing a pilot communication/outreach plan to help expand awareness of the problem among consumers.

"There has been a lot of movement on this issue internationally through RIONED (Dutch) and EUREAU, Water UK, and German, French and Scandinavian wastewater associations and utilities.

"It is discouraging to hear about the 'flushable' dispensers in public rest rooms in Australia.

"Portland has an environmental education officer working hard to change behaviour, as the horse has bolted so to speak."

Lynne Richard, a spokesperson for the Portland Board says, "I work with students, teachers and community members to inform them about the issue in hopes that taking the message home can create a culture of personal responsibility that will diminish the demand for the product or help create the need for change in composition of the wipes. It's a tall hill to climb, but we're having some success."

Thus it appears this is a widespread issue globally, but there is no concerted effort to solve the problem.

What does flushable really mean?

This loosely used term is used as a 'feel good' tag, so the public won't be concerned about the product or the way it is disposed.

One company that claims to produce a wipe with flushability in the US is Swipes, who produce Lovin Wipes®.

Swipes describes themselves as a responsible, eco-friendly company owned by women and is dedicated to providing safe, natural wipes specifically designed for use before or after intimate moments – and we're assuming they aren't talking about a plumber coming to do a drain clean!

But their website does have some useful information about what they believe goes on behind this industry sector.

Can you flush it?

The term 'flushable' has been around since the 1980s. Scott Paper was one of the first to market a standard latex bonded airlaid wet wipe and deem them as 'flushable' because of their small size. These wipes were considered flushable as long as the size was small enough to transit through the toilet and sewerage system. Sure the product was flushable but it had no flushability. Many companies after Scotts' continued to use the same flushable wipe claims due to the size standard that was in place. Until recently there were no industry guidelines nor any governmental regulations or restrictions for flushable wipe products. This was due to the lack of clarity on defining the word flushability or what was considered flushable. Many felt unclear; not knowing when flushing was considered an appropriate disposal mechanism. The situation caused many consumers, manufacturers, and stake-holders confusion. As a result, companies used their own definitions and methods to determine what constituted their product as a flushable wipe.

It wasn't until these sizably flushable wipes started to clog the municipal sewerage system that there became a need for regulation. Both the INDA, Association of the Nonwoven Fabrics Industry, as well as the European counterpart EDANA, have now put regulations in place for flushable wipes to be made up of non-woven fabrics that have actual flushability or what we like to call—truly flushable! In summer of 2009, INDA and EDANA published their very own flushability guidelines known as the Guidance Document for Assessing the Flushability of Nonwoven Consumer Products. A mouthful, I know. So it's our job to break down the 225 page document and give you what you need to know to be a well informed, responsible consumer.

What's a flushable wipe?

What deems a product as a truly flushable wipe? Well for starters, it should easily disintegrate when flushed. A Consumerreport.org video demonstrated what happens to a flushable wipe when it's put through a disintegration test to simulate the process of flushing. The report revealed regular tissue easily disintegrating within 8 seconds but the flushable wipe doesn't even begin to break up after 30 minutes. This alone is enough to cause problems for your sanitary plumbing and septic system, as well as water utilities sewerage systems and treatment plants. A truly flushable wipe is more like toilet tissue; it's dispersible and will easily break-up, leaving your sewer and septic systems safe from clogging.

Because there is still much ambiguity surrounding the term flushable, we'll extend our investigation. More often than not, flushable is confused with biodegradable and/or dispersible.

The guidelines define a product as flushable if it 1) clears toilets and properly maintained drainage pipe systems under expected product usage conditions; 2) are compatible with existing conveyance, treatment, reuse and disposal systems; and 3) becomes unrecognizable in a reasonable period of time and is safe in the natural receiving environments.

So how do INDA and EDANA really determine if products are flushable, more specifically a flushable wipe? Let's break down the product flushability assessment. Flushabilty of products are determined by what happens at each stage of waste disposal. According to the Guidance Document, for a product to be considered flushable, "it must pass through the building's toilet and drain-line system, be transported in sewerage systems, and be compatible with sewage treatment systems where they exist, or in some regions, untreated discharges of untreated sewage." These are the acceptable conditions for flushable products. A flow chart of key questions is given to manufacturers to answer in order to determine whether they are allowed use the flushable claim. This chart evaluates a products' route post-flushing. Questions entail information concerning toilet and drainage as well as onsite treatment, municipal sewage collection and treatment, and/or untreated sewage discharge. ➤

Company Responsibility

So at this point you have a pretty clear idea of what flushable is or what it is not, as well as the difference between an ordinary flushable wipe or a wipe with flushability (what a real flushable wipe looks like). To help you, the consumer, get the flushable wipe product you're looking for, remember it's the company's responsibility to provide the proper information on their packaging. They must: 1.) clearly label all packs of personal hygiene wet wipes that are ***not flushable*** *to indicate that they should be disposed of via the solid waste system, 2.) communicate the appropriate disposal pathway for personal hygiene wet wipes on relevant printed and online product material, 3.) encourage manufacturers and private label producers who are not members of EDANA to comply with this code of practice, 4.) encourage retailers to subscribe to this code of practice in their private label activities and where possible reinforce this at the consumer level and 5.) where appropriate, support the work of stakeholders at national and local level to increase public awareness of good wastewater disposal practices.*

And there you have it, everything you need to know to be a responsible consumer. Happy flushing!

Obviously Swipes has something to gain in telling this story but at least they lift the veil somewhat on the sector. So how do we handle this growing situation in Australia?

Every man and his dog

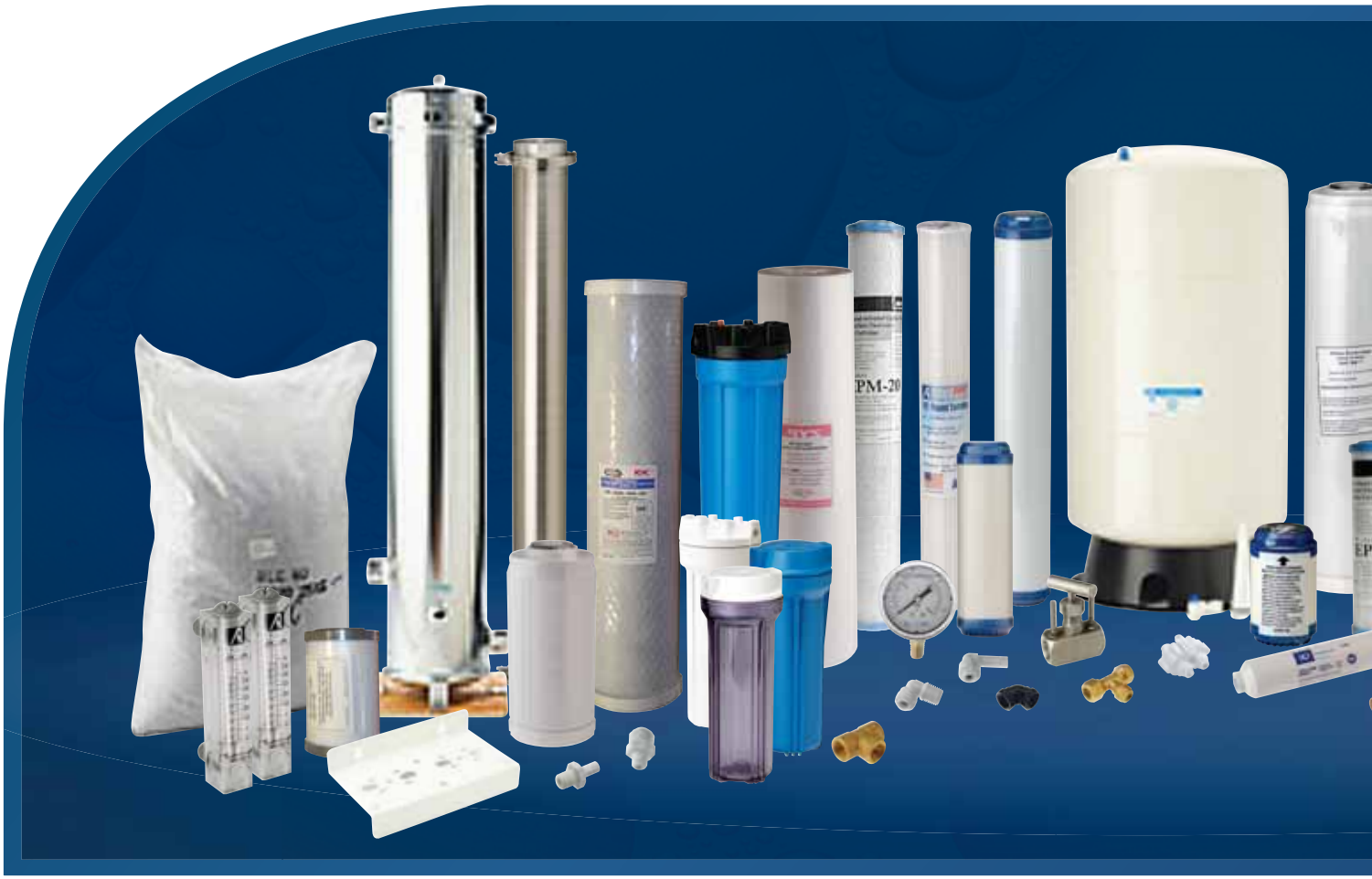
Walk into any supermarket and you can see wipes in the health and beauty area, baby department, household cleaning, auto-cleaning, even the intimate moment department, if Swipes make it here!

We suspect one of the attractions for some brands such as Solvol (hand soap) is to extend their brand franchise.

With toilet paper manufacturers, we're not too sure it stops at that.

Late last year we came across a large marketing campaign from Kimberley-Clark, the manufacturers of Kleenex Cottonelle Flushable Fresh Wipes. What was concerning was the fact they claimed to be running a sampling program that had dispensers with 191,000 sample packs of wipes installed in offices in Sydney, Melbourne and Brisbane to encourage trial of the product.

What Kleenex's plans are is anyone's guess. *Plumbing Connection* made contact with this manufacturer on a number of occasions over a four month period – we asked if they could supply information of testing methodology/ performance data that reports on the



flushability of their product. Also, has that testing been done in the Australian market or is it just from the US?

No response was forthcoming.

One can only assume that with their core business of toilet paper being such a commodity, they are keen to move to a higher value offering and get the consumer off dry paper and onto wipes.

What can we do about this issue in Australia?

Plumbing Connection contacted David Cox, the manager of technical services at the Water Services Association of Australia to see what experience/interest they had in this issue. We were pleasantly surprised to learn that the WSAA has the issue of 'flushable' wipes on its radar too.

Here is David's response.

"The Water Services Association of Australia (WSAA) believes that the "flushable" marketing claims of most disposable wipes simply won't wash.

What is the science behind Kleenex's claims that their flushable wipes are good for the drainage system? (Picture sourced from Mumbrella.)

Understandably, for their convenience, these wipes are growing in popularity among householders. A cause for even greater concern is the high-volume use in industry—by motor mechanics, in surgeries and hospitals, in child care facilities and in aged care.

Most manufacturers describe these products as 'safe for sewers and septic systems'; even going so far as to claim their wipes 'break up like toilet paper after flushing'. However the US ConsumerReports.org does not agree: While ordinary toilet paper disintegrates in seconds after flushing, some flushable moist wipes failed to disintegrate after 30 minutes. *(http://www.consumersearch.com/toilet-paper/flushable-moist-wipes)* ➤

A simple test would be to soak in water and then stir for a minute to see if the product breaks up. One consumer reviewer reported testing a wipe in a bucket of water for a full day before swirling the water to see if it would fall apart. It didn't, and was still intact a week later.

A test by the Portland, Maine sewer department found flushable wipes failed to disintegrate after standing in water for nearly a week. *(http://www.consumersearch.com/toilet-paper/flushable-moist-wipes)*

Numerous consumer reports have reported blocked sewer lines where the culprit was identified as wipes. With households adopting lower flush rates to conserve water, the domestic plumbing problems can only increase.

On a wider scale, of concern to community health, WSAA members have reported:

- blocked sewage pumping stations
- sewer overflows due to fouling within the sewerage network especially as customers have reduced their discharges through installation of water efficient appliances and fixtures, as well as adopted water conservation behaviours
- fouling of remote telemetry units in sewers that monitor flows and which are used to control inflows to sewage treatment plants
- mats formed on tanks that clarify sewage by settling and sedimentation
- increase in solids needing to be removed from sewage treatment plants.

Many flushable consumer products do not break down in treatment processes and become a nuisance in surface waters, recycled materials and soil environments.

In part, the problems presented by "flushable" wipes are due to a lack of regulation and a concise definition of "flushability".

According to a US manufacturer of rayon for wipes, a product is considered flushable 'if it is able to pass through a toilet bowl and afterwards through a household drainage (sic)…' While going on to say the product should not block onsite or municipal wastewater treatment systems, and should not be recognisable in the environment after a reasonable period of time; the manufacturer admits that a guideline published by two industry organisations in 2008 'is not mandatory and has not brought the clarity the industry was seeking'.

It concludes, 'work to define a globally accepted Standard for flushable products is still ongoing'. *(www.kelheim-fibres.com/pdf/atlanta_1208.pdf)*

In Australia, we may have more workable guidelines. WSAA is a subscribing member of the Water Environment Research Foundation (WERF). In 2003 the Foundation and the International Water Association published a comprehensive document, *Protocols to Assess the Breakdown of Flushable Consumer Products*, which describes a scientifically sound approach for assessing compatibility of flushable consumer products with plumbing fixtures and sewage disposal systems.

Policies such as Sydney Water's Trade Waste Policy and Management Plan aim to reduce the mass of substances discharged to the sewerage systems. However, water utilities do not have the authority to restrict marketing of these products, nor their use by residential customers.

In fact Sydney Water visited age care facilities in affected catchments to request staff is trained to dispose wipes in bins.

What can be done? The old adage goes, 'if you didn't eat it or drink it, don't flush it'. ConsumerReports.org's editors say in a blog posting, 'To avoid taxing your toilet or your septic system, we recommend that you bag the wipes after use and toss them into the trash.'

Nevertheless, as campaigns to reduce household water consumption have illustrated, educating the public to adopt preferable practices—while not impossible—can be costly and take a long time. Particularly in this instance when the packages read 'safe' and 'flushable'.

"Many flushable consumer products do not break down in treatment processes and become a nuisance in surface waters, recycled materials and soil environments," David Cox says.

Flushable consumer products need to demonstrate that they are compatible with plumbing fixtures, sanitary pipework and drains, sewage collection networks and treatment systems.

Perhaps if enough householders passed their plumbing bills on to lawyers to seek recompense from manufacturers, the packaging claims or product 'flushability' may change. Legislation and certification may be required, such as applies to 'organic' and 'recyclable' claims by manufacturers.

WSAA hopes it need not come to this, and encourages all personal hygiene product manufacturers to adopt the systematic approach published by WERF."

Don't flush it

The plumbing and water services industries need to band together to lobby against the use of flushable wipes. This is a growing problem in need of intervention. If any plumbers have had to deal with problems caused by flushable wipes, they should let their local water utility know, contact media organisations and make it clear to the consumer or building owner that the effect of flushing wipes has infrastructural and economic problems. ■