

The incompatibility of plastic bags and aquatic life - the sophistication of modern garbage collection

Worldwide, some five trillion plastic shopping bags are discarded annually. Thousands of shopping malls have free plastic bags displayed at check outs to load groceries and other goods, immediately after the register transactions. Few ever think about the environmental consequences of something weighing less than ten grams and fewer still would link its origin to oil fields in the Middle East, the Far East and diverse oceanic oil drilling operations around the world.

At the time of writing, London was considering banning plastic shopping bags, perhaps leading other UK cities and towns to emulate its initiative. At least 33 London councils, as well as an overwhelming number of their constituents, now regard plastic shopping bags as environmentally bad, even perhaps evil. The councils appear headed to imposing either a complete ban or a tax on every bag.

British supermarkets distribute more than 17 billion plastic bags each year, creating an estimated 60,000 tonnes of plastic for the landfill sites. And the UK is only one country in the prosperous European Union.

Across the Irish Sea from Britain, Ireland had already taken an aggressive approach with what was dubbed the "Emerald Isle's Plastax". The Irish Government began charging consumers

20 cents for each plastic shopping bag as early as 2002. Only three months later, it was announced that stores had reduced the number of plastic bags given out by 90% - 277 million fewer bags. The market mechanism clearly can work.

While Canadian cities are still pondering the issue, San Francisco, Dacca, Bangladesh, and other cities have already imposed plastic bag taxes which may simply direct shoppers to use other containers - such as paper bags - which at least are biodegradable. But paper bags come from trees; but let's not go there, at least for now.

Generally speaking, taxing environmental usage of commodities which society wishes to discourage seems to be gaining popularity around the world. In Canada, local governments are trying to make people think about the multiple problems involving drinking and wastewater treatment, garbage disposal and energy consumption.

But there may be simpler ways to reduce the throwaway plastic bags. Supermarkets could simply emulate the Irish and try charging for plastic bags - but it is always risky charging for something people have always got for free. A cultural and monetary territorial imperative? Perhaps, but charging for the ubiquitous bags could encourage the public to simply re-use the ones they already have, saving money and the environment quite painlessly.

Increasingly, municipalities are providing residents with systems that encourage separation of garbage items from recycling containers. Many Ontario communities recently issued Green Bins for kitchen wastes, some towns even using the tax bills as a catchy reminder, saying: "The Bin is in." Hardly Hamlet, I know, but his soliloquy was uncannily prescient for today's garbage disposal ethos when it noted: "The evil that men do is oft forgotten, the good is oft interred with their bones."

But now household garbage collection - once at the bottom end of environmental concerns - has developed into sophisticated operations which require skill, muscle and versatile garbage trucks.

Operators have to drive large and increasingly complex vehicles which can imbibe a range of wastes, including the large cardboard boxes the *stuff* originally was contained in. Recently I took note of just how much diverse junk was put out along our narrow rear laneways. I watched, admiringly, as drivers navigated their wide and high garbage trucks along these laneways - made narrower by parked cars. Operators hopped out nimbly to pick up a variety of large, sometimes heavy, discarded items, including furniture and fridges. Nor was all the garbage put out neatly in the ubiquitous green bags.

continued overleaf...



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Editor TOM DAVEY
E-mail: tom@esemag.com
(No attachments please)

Managing Editor SANDRA DAVEY
E-mail: sandra@esemag.com

Sales Director PENNY DAVEY
E-mail: penny@esemag.com

Sales Representative DENISE SIMPSON
E-mail: denise@esemag.com

Circulation Manager VIRGINIA MEYER
E-mail: virginia@esemag.com

Production Manager CHRIS MAC DONALD
E-mail: chris@esemag.com

Publisher STEVE DAVEY
E-mail: steve@esemag.com

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Environmental Science & Engineering, 220 Industrial Pkwy. S., Unit 30, Aurora, Ontario, Canada, L4G 3V6,
Tel: (905) 727-4666, Fax: (905) 841-7271,
Web site: www.esemag.com

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Comment by Tom Davey

Recently our town councillors ordained that all putrescibles had to be placed in Green Bins, the contents of which are dumped in special compartments inside the trucks.

Thankfully, we have disposal depots for toxic residuals such as paints, solvents, gardening chemicals and other diverse toxins.

But for every large green garbage bag destined for landfill, there is a plethora of small plastic bags entering our ecosystems which, individually, are trifling but collectively seriously impact fish and other creatures in our oceans.

While the evolutionary defences of this aquatic life have been fine-tuned over millennia to deal with storms, tides and even the dangers from shipping, nothing has trained ocean creatures to deal with the deadly aftermath of our plastic discards. Many of these we have used just briefly before being discarded forever, yet ironically they might match the Egyptian Pyramids in longevity.

So much environmental damage for so little benefit. Tragic.

tom@esemag.com

Letters to the Editor

Dear Mr. Davey

I was very disappointed in reading the article by David Beck in the March issue of ESE Magazine entitled "Asset management and life cycle cost analyses combine to abate water main failures." I was hoping to read something that was rigorous and actually looked at life cycle costs. Instead the reader gets a simplistic and erroneous impression that PVC technology is the answer to asset management. The writer bases some of his conclusions on a survey conducted by the NRC and a report funded by the PVC industry.

The report in question had no analysis of pipe age and other important factors such as soil bedding, backfill materials, ground water conditions, climate or installation and operational factors which would influence water main breaks. Factors such as the corrosivity of the soils and whether or not effective corrosion control was implemented were also ignored and are extremely important considerations in analyses of this type.

The NRC report has limitations and to conclude anything from the report is not good engineering. Attached are 2 files that the Ductile Iron Pipe Research Association has prepared in reviewing the NRC report in question.

Normand De Agostinis, Eng.
Senior Regional Engineer
Ductile Iron Pipe Research
Association
NACE Certified Corrosion
Specialist
www.dipra.org

Re: ES&E Magazine celebrates
two decades of publishing

Tom,

ES&E's two decades of existence remind me of a time 14 years ago when I was learning English from your magazine!

I was taking ESL courses and at the same time I was trying to read your articles. It was hard at the beginning and mostly not understandable... but there were a lot of pictures accompanying articles to help me. This is how I learned the terminology and learned about the latest events and achievements in civil engineering in Canada.

All the time while I was having job interviews, or was on my work placement or on a co-op course, and finally when I got a job, ES&E helped me feel more comfortable in a new country. I haven't been reading your magazine for the last few years... Today I read your March 2008 issue and felt like I was coming back home.

Thank you and happy birthday to ES&E!

Marijana Bulatovic
Senior Engineer, City of Toronto

Thanks, Marijana. It was gratifying to know that our magazine had such a positive influence on a young woman's engineering career at such a pivotal time.

Tom Davey